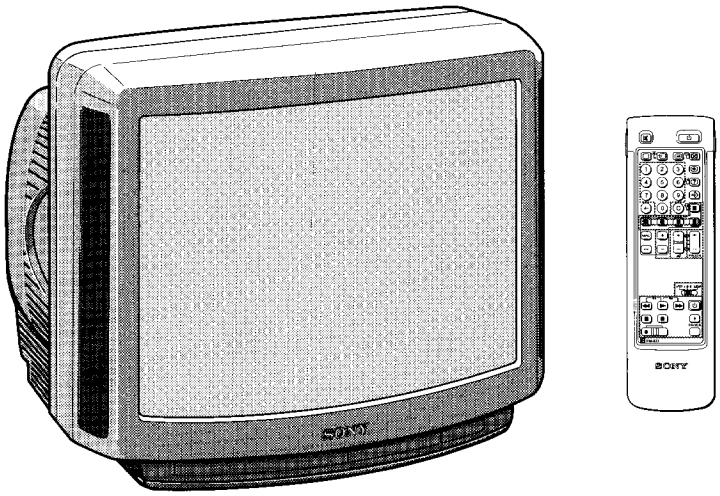
SERVICE MANUAL

BE-3B CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2981A	RM-833	Italian	SCC-G81J-A
KV-X2983B	RM-833	French	SCC-G85G-A
KV-X2981D	RM-833	AEP	SCC-G77J-A
KV-X2983E	RM-833	Spanish	SCC-G82H-A
KV-X2981K	RM-833	OIRT	SCC-G86F-A
KV-X2982U	RM-833	UK	SCC-G87E-A



MICROFILM

TRINITRON® COLOR TV

SONY®

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF:A-H2 (C) PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, L, I	GERMAN Stereo	L VHF:F02-F10 UHF:F21-F69 CABLE:B-Q S21-S44 B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) I UHF:B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H	GERMAN/NICAM Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN Stereo	B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2);S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish	UK	OIRT
Power Consumption	108W	108W	108W	108W	156W	108W

SPECIFICATIONS

Picture Tube — Hi-Black Trinitron
Approx. 72 cm (29 inches)
(Approx. 68 cm picture measured diagonally)
110° -deflection

Input/Output Terminals

[REAR]

- 1 21-pin Euro connector (CENELEC standard)
  - inputs for audio and video signals
  - inputs for RGB
  - outputs of TV video and audio signals
- 2/S 2 21-pin Euro connector
  - inputs for audio and video signals
  - inputs for S video
  - outputs for audio and video signals (selectable)

[FRONT]

- 3 Video input - phono jack
- 3 Audio inputs - phono jacks
- S 3 S video input 4-pin DIN
- Ω Headphone jacks : stereo minijack

Sound output	2 x 30W (Music power)
Dimensions	Approx. 676x557x528 mm
Weight	Approx. 48kg
Supplied accessories	RM-833 Remote Commander (1) IEC designation R6 battery (1)
Other features	NICAM , FASTEXT, TOPTEXT.

[RM-833]

Remote control system	infrared control
Power requirements	1.5V dc 1 battery IEC designation R6 (size AA)
Dimensions	Approx. 65x225x21 mm (w/h/d)
Weight	Approx. 157g (Not including batteries)

Design and specifications are subject to change without notice.

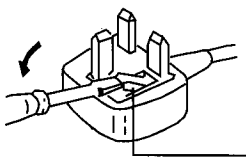
Item \ Model name	KV-X2981A	KV-X2983B	KV-X2981D	KV-X2983E	KV-X2981K	KV-X2982U
Pal Comb	OFF	ON	OFF	OFF	ON	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	OFF	OFF	OFF	OFF
Woofer Box	OFF	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON
Norm B/G/H	ON	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	OFF	ON
Norm D/K	ON	OFF	ON	OFF	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF
Toptext	ON	ON	ON	ON	ON	OFF
Nicam Stereo	OFF	ON	OFF	ON	OFF	ON
Language Preset	Italian	French	German	Spanish	OIRT	English

WARNING (KV-X2982U only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the ASTA mark.

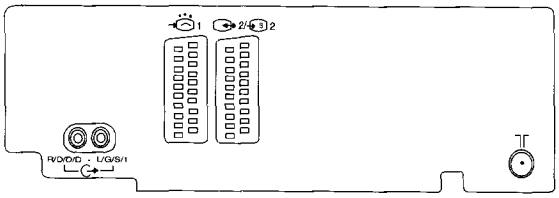
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME. IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.

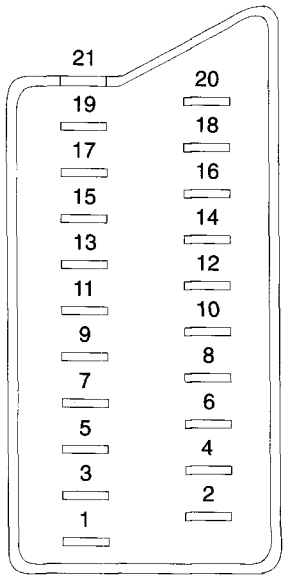
When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with the screwdriver blade
and replace the fuse.

21 pin connector (1 2 / 4)

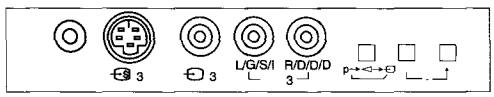




Pin No.	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedance :More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance :More than 10kohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 ± 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground(blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) croma input	0.3 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75ohms
17	○	○	○	Ground(video output)	
18	○	○	○	Ground(video input)	
19	○	○	○	Video output	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
20	○	—	—	Video input	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
21	○	○	○	Common ground (plug, sheild)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm , positive Sync. 0.3V -3/+10 dB
4	C (S signal) input	0.3V ± 3dB 75 ohm , positive Sync.



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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLIMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE. LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTEMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

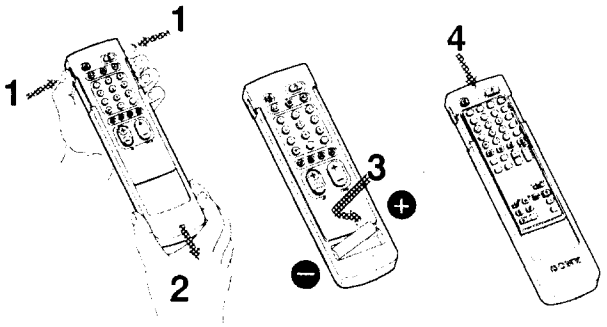
ATTENTION AUX COMPOSANTS RELATIFS Á LA SÈCURITÈ !!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

SECTION 1 GENERAL

Getting Started

Inserting the Battery Into the Remote Commander



Remove the cover.

Check the correct polarity.

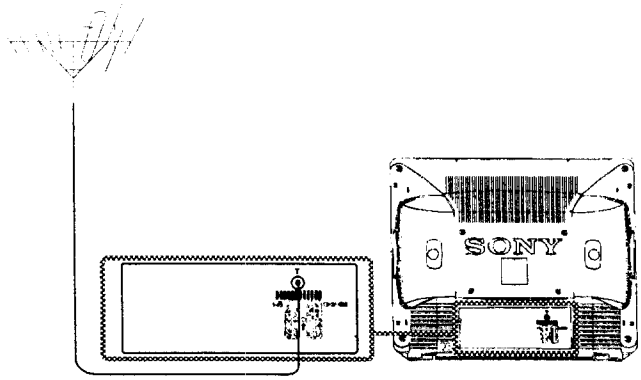
Refit the outside cover making sure that the Full Function side is visible.

About Battery Life

Under normal operation, a battery will last up to half a year.

Connecting the Aerial

Connect aerial to the ℸ socket at the rear of the TV. (cable not supplied)



Choosing a Language

(See inside of front cover and back cover)

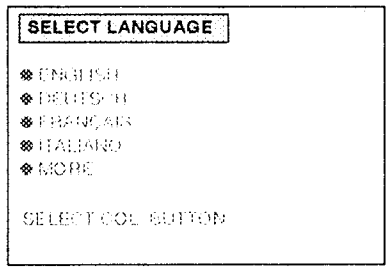
1 **Depress ⏻ [A] on the TV.**
The TV turns on. If the standby indicator [B] on the TV is lit, press ○ [3] or any number button [4] on the Remote Commander.

2 **Press MENU [7] on the Remote Commander.**
The SELECT LANGUAGE screen appears.

MENU

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

3 **Press one of the colour buttons [17] on the Remote Commander to select a language (Press the white button [17] to display other language alternatives). The SELECT LANGUAGE screen clears and all subsequent menus appear in the chosen language.**



Note: From the second time when you turn on the TV, the MENU screen appears instead of the SELECT LANGUAGE screen. Press the yellow button [17] then press the white button [17] to redisplay the SELECT LANGUAGE screen.

Tuning in to Channels

You can tune in up to 100 channels to programme positions either automatically or manually.

auto tuning:	A single button press allows all receivable channels to be tuned. Use if you are unfamiliar with the channel numbers of stations.
manual tuning:	Use if you are familiar with the channel numbers of stations.

Choose the more appropriate way for you.

Tuning in to Channels Automatically

There are two possibilities for auto tuning;

A. On the TV: hold down ▶▶□ [E] on the front of the TV for 2 seconds

or

B. On the Remote Commander: as follows

1 **Press MENU [7].**

2 **Press the white button [17].**

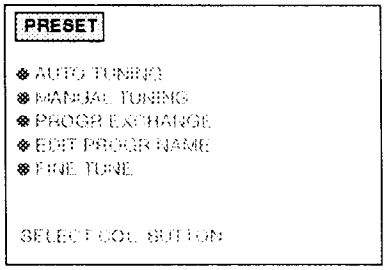
3 **Hold down the red button [17] for 2 seconds,**

Note: Press the green button [17] to cancel.

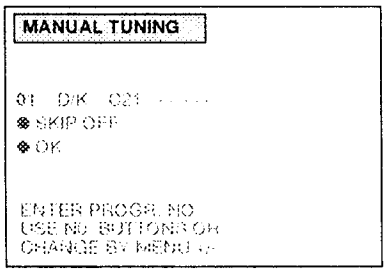
Tuning in to Channels Manually

1 **Press MENU [7].**
The MENU screen appears.

2 **Press the white button [17] to select PRESET.**
The PRESET screen appears.



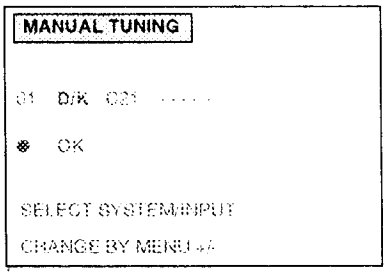
3 **Press the green button [17] to select MANUAL TUNING.**
The MANUAL TUNING screen appears.



4 **Press the number buttons [4] or MENU+/– [9] to select a programme position.**
If you use the number buttons [4], enter a double-digit number. (e.g. for programme number 4, first press 0, then 4)

5 **Press the green button [17].**

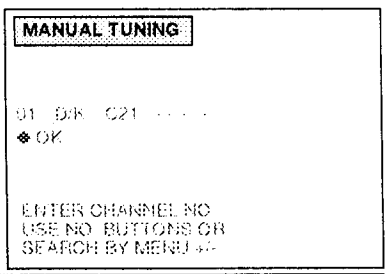
Note: Use MENU +/– [9] to select TV system. You can alternatively select input sources which may be assigned to programme positions. The display changes as follows:



B/G ⟷ D/K ⟷ AV1 ⟷ RGB ⟷ AV2 ⟷ YC2 ⟷ AV3 ⟷ YC3

6 **Press the green button [17].**

Note: If a video input source is selected in step 5, this is now stored. Refer to step 4 to tune other programme positions.



7 **When you have selected B/G, press the red button [17] to select C (regular channel) or S (cable channel).**

8 **Press the number buttons [4] or MENU+/– [9] to select the channel number.**
If you use the number buttons [4], enter a double-digit number. (e.g. for channel 23, first press 2, then 3)

9 **Press the green button [17] to store.**

Note: If you want to preset other channels, repeat steps 4 to 9.

10 **Press MENU [7] twice to return to the normal screen.**

Note: You can skip unused programme positions when selecting programmes with the PROGR +/– buttons [18]. Press the red button [17] to skip in step 4. However, the skipped programmes may still be called up when you use the number buttons.

Basic TV Operations

Turning the TV on and off

Turning on
Depress ⏻ [A] on the TV.

Turning off temporarily
Press ⏻ [10] on the Remote Commander.
The TV enters standby mode and the standby indicator [B] on the front of the TV lights up.

Turning on again
Press ▢ [3], PROGR+/– [18], or one of the number buttons [4] on the Remote Commander.

Turning off completely
Depress ⏻ [A] on the TV.
Note: It is recommended to use ⏻ [A] to turn off the TV. This could help you save energy.

Selecting TV Programmes

Press PROGR+/– [18] or press number buttons [4].

To select a double-digit number
Press -/-- [5], then the number buttons [4].

Adjusting the Volume

Press ◿+/– [19].

Muting the Sound

Press 🔇 [1].
To resume normal sound, press 🔇 [1] again.

Displaying the On-screen Indications

Press ⓘ [14] once to display the on-screen indications. Press again to make the indications disappear.

Note: If NICAM is transmitted regardless of whether it is stereo or mono, the two speaker symbol automatically appears on the screen for several seconds.

Operating the TV Using the Buttons on the TV

With the buttons on the TV, you can adjust or select the functions as follows:

Press ◿+/– [D] to adjust the volume.
Press P+/– [C] to select programme numbers or to turn the TV on from the standby mode.
Press ⏻ [F] to select the input source.
Press ▶▶| [E] to preset channels automatically.

Advanced TV Operations

Operating the Menu System

You can adjust picture and sound, preset channels to programme positions and utilise other convenient features by using the following menu system.

Press;		to;
1	MENU [7]	enter the MENU screen
2	a colour button [17]	select an item you want to change (The selected item is marked by a triangle.)
3	MENU+/– [9]	change (or adjust) the contents of the item
4	MENU [7]	return to the MENU screen
5	MENU [7] again	return to the normal screen
Press MENU [7] once or twice whenever you want to return to the normal screen.		

Note: When selecting menus, the picture becomes darker. If, however, an item in the PICTURE ADJUSTMENT menu is selected, normal level of TV picture is restored to allow the best adjustment.

Adjusting the Picture and Sound

Although picture and sound are adjusted at the factory you can adjust them to suit your own taste.

1 Press MENU [7].
The MENU screen appears.

2 Press the red button [17] to select PICTURE or the green button [17] to select SOUND.

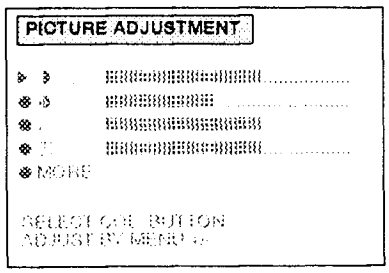
3 Press the respective colour button [17] to select an item.

4 Press MENU +/– [9] to adjust.

5 Press MENU [7] twice or wait until the menu displays disappear automatically to return to the normal screen.

PICTURE ADJUSTMENT

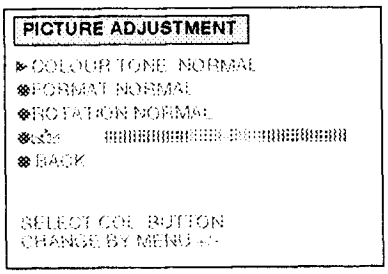
(First Page)



Press colour button	Effect
Red: For Picture ◑	Less —I— More
Green: For Colour ◕	Less —I— More
Yellow: For Brightness ☼	Darker —I— Brighter
Blue: For Sharpness ⓓ	Softer —I— Sharper
White:	Next page of PICTURE ADJUSTMENT

PICTURE ADJUSTMENT

(Second Page)

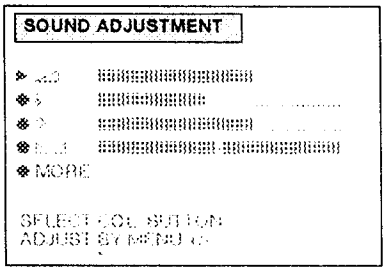


Press colour button	Effect
Red: For Colour Tone	Normal -> Warm (reddish colour tone) -> Cool (blueish colour tone)
Green: For Format	Normal: Normal setting 16:9 Wide screen effect
Yellow: For Picture Rotation (only for KV-X2981K)	Normal: Normal setting –5~+5: Adjusts the picture slant caused by the earth magnetism
Blue: For Hue control (only for NTSC video signals)	Reddish —I— Greenish
White:	Back to first page of PICTURE ADJUSTMENT

Note: Press →•← [8] on the Remote Commander to reset to the factory preset levels for picture and sound.

SOUND ADJUSTMENT

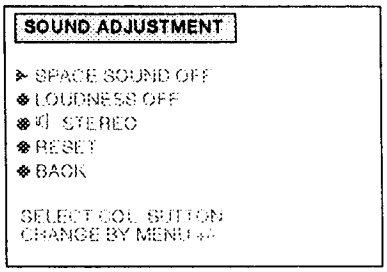
(First Page)



Press colour button	Effect
Red: For Volume	Less —|— More
Green: For Treble	Less —|— More
Yellow: For Bass	Less —|— More
Blue: For Balance	More left - more right
White:	Next page of SOUND ADJUSTMENT

SOUND ADJUSTMENT

(Second Page)



Press colour button	Effect
Red: For Space Sound	OFF: normal sound ON: for a special acoustic sound effect
Green: For LOUDNESS	OFF: normal sounds ON: when listening to music broadcast
Yellow: For Stereo:	Stereo -> Mono A (left channel) - > Mono B (right channel) -> Mono
Blue: For Reset:	Resets to the factory preset levels for picture and sound
White:	Back to first page of SOUND ADJUSTMENT

Note: Press [8] on the Remote Commander to reset to the factory preset levels for picture and sound.

Using Special Features

With your TV you can utilise special features such as Parental Lock or Sleep Timer .

1 **Press MENU [7].**
The MENU screen appears.

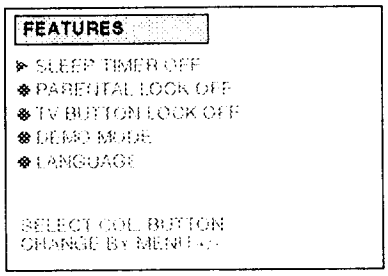
2 **Press the yellow button [17] to select FEATURES.**

3 **Press the respective colour button [17] to select an item.**

4 **Press MENU +/– [9] to change.**

5 **Press MENU [7] twice or wait until the menu displays disappear automatically to return to the normal screen.**

FEATURES



Press colour button	Effect
Red: For Sleep Timer (Automatic switch off function)	OFF -> 0:30 -> 1:00 -> 1:30 -> 2:00 (hours) After the selected time the TV set switches itself automatically into standby mode.
Green: For Parental Lock (For preventing children from watching programmes which you consider unsuitable)	OFF: Normal setting ON: The TV-channel you are watching is now blocked. In this way you can prevent undesirable broadcasts from appearing on the screen.
Yellow For TV Button Lock	OFF: Normal setting ON: The buttons on the TV do not function anymore. (The Remote Commander still operates)
Blue: For Demo Mode	ON: A sequence of menu pictures is displayed. Press any button on the Remote Commander to stop the function.
White: For Language	The SELECT LANGUAGE screen appears.

Advanced Presetting Functions

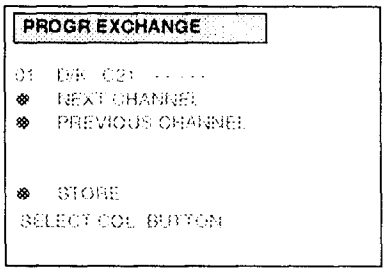
Exchanging Programme Positions

You can exchange the programme positions to a preferred order (example: exchange programme 09 (channel C21) with programme 15 (channel C24).

1 **Press MENU [7].**
The MENU screen appears.

2 **Press the white button [17].**
The PRESET screen appears.

3 **Press the yellow button [17].**
The PROGR EXCHANGE screen appears.



4 **Press the white button [17] repeatedly until the desired programme number (09) appears.**

5 **Press the red or the green button [17] repeatedly until the desired channel number (C24) appears.**

6 **Press the white button [17] to store.**
Now the exchange has been completed. Channel C24 is tuned in to programme 09 and channel C21 is tuned in to programme 15.

7 **Press MENU [7] twice to return to the normal screen.**

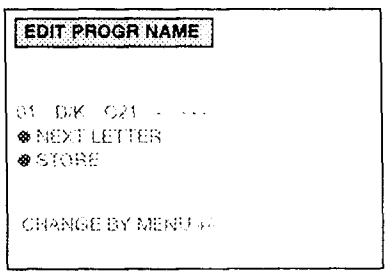
Editing Programme Names

You can edit the programme names up to five letters.

1 **Press MENU [7].**
The MENU screen appears.

2 **Press the white button [17].**
The PRESET screen appears.

3 **Press the blue button [17].**
The EDIT PROGR NAME screen appears.
The first character flashes.



4 **Press MENU+/– [9] to edit the first letter.**
The first letter changes as follows;

A ↔B ↔. . . ↔Z ↔0 ↔1 ↔. . . ↔9 ↔"–" (space)

5 **Press the red button [17] to move to the next letter.**

6 **Repeat steps 4 to 5, until the fifth letter is chosen.**

7 **Press the green button [17].**
The programme name is stored, and the normal screen appears. To edit another programme name, repeat steps 1 to 7.

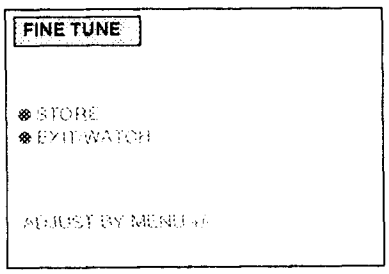
Fine Tuning

You can adjust the receiving condition by the FINE TUNE function.

1 **Press MENU [7].**
The MENU screen appears.

2 **Press the white button [17].**
The PRESET screen appears.

3 **Press the white button [17] again.**
The FINE TUNE screen appears.



4 **Press MENU+/– [9] to adjust the receiving condition.**

5 **Press the red button [17] to store the adjustment, or press the green button [17] not to store.**
Then the normal screen appears. If you have pressed the green button, the fine tuned condition is cancelled once you choose another programme.

Tuning in to a Channel Temporarily

You can tune in to a channel temporarily, even when it has not been preset.

1 **Press C [16] on the Remote Commander. For cable channels, press C [16] twice.**
The indication "C" ("S" for cable channels) appears on the screen.

2 **Enter a double-digit channel number using the number buttons (e.g. for channel 23, first press 2, then 3).**
The channel appears.
However, the channel is not stored.

Teletext Operation

TV stations broadcast teletext programmes via the TV channels. For basic operation of teletext, use the simple side of the Remote Commander. For the advanced features of teletext, use the buttons indicated in green on the full function side of the Remote Commander.

Basic Teletext Operation

Switching Teletext on and off

1 Select the channel which carries the teletext service you wish to view.

2 **Press ≡ 11 to display Teletext.**
If no teletext signal is broadcast, the indication P100 is displayed on a black screen.

3 **Input three digits for the page number using the number buttons 4.**
The numbers are displayed on the screen and the requested page appears in a few seconds.
Note: If you make a mistake, type in any three digits, then re-enter the correct page number.

4 **Press ▢ 3 once or ≡ 11 twice to return to the TV mode.**

Note: To change the teletext channels. First press ▢ 3 to return to the TV mode, then repeat steps 1 to 3.
Note: If the signal of a TV channel is weak, teletext errors may occur.

Advanced Teletext Operation

Using Fastext

With Fastext you can access pages with one button press. When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons 6 on the Remote Commander.
Press the corresponding colour button 6 on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed in a few seconds.

Requesting the Index page

Press ⊡ 17. The Index page appears.

Accessing the next or preceding page

Press ⊡▲ (PAGE +) or ⊡▼ (PAGE –) 18. The next or the preceding page appears on the screen.

Superimposing the teletext display on the TV picture

Press ≡ 11 once if you are in text mode or press ≡ 11 twice if in TV mode.
To return to the normal teletext display press ≡ 11 twice.

Preventing a teletext page from being updated or changed

Press ⊜ (HOLD) 2. The HOLD symbol (⊜) appears on the screen and the selected subpage is held until you press ≡ 11 to cancel.

Enlarging the teletext display

Press ⊕ 13 once to enlarge the upper half. Press twice to enlarge the lower half. Press again to restore the normal display.

Revealing concealed information (e.g. answers to a quiz)

Press ? (REVEAL) 14. The information is revealed. Press ? 14 again to conceal the information.

Watching TV while waiting for a requested page to be displayed

1 **Request a new teletext page.**

2 **Press ⊠(TEXT CL) 12.**
The TV programme is displayed and the symbol ≡ is displayed at the top of the page.
Note: When the requested page is available the page number is displayed at the top of the screen.

3 **Press ≡ 11 to view the page.**

Note: To cancel the request
Display the teletext page, then press ≡ 11. The request is now cancelled. Press ▢ 3 to resume TV mode.

Using the Favourite Page system

You can store up to four of your favourite teletext pages per programme with the help of the Favourite page system. In this way you have quick access to the pages you watch frequently.

Storing the Favourite Pages

1 **Select the page you would like to store using the number buttons 4.**

2 **Press ⇳ 15 twice.**
The colour prompts at the bottom of the screen flash.

3 **Press any of the colour buttons 6 on the Remote Commander to store the selected page.**
The page is now stored on this button.

Repeat steps 1 to 3 for the other 3 pages available.

Displaying the Favourite pages

1 **Press ⇳ 15.**

2 **Press the colour button 6 corresponding to the colour prompt onto which the desired page is stored.**
The page is requested. (It may take a few seconds to be received).

Note: Step 1 must be taken before every favourite page selection, otherwise the normal Fastext facility operates.

Using the Time Function in the TV mode

Press ⊙ 12 to request the time. Press again to cancel the request.
Note: This function is available only when teletext is broadcast.

Connecting Other Equipment

You can connect optional audio/video equipment to this TV such as VCRs, video disc players, cameras or stereo systems.

Connector	Acceptable input signal	Available output signal
1 M (AV1/RGB)	Audio/video and RGB signal	Audio/video signal from TV Tuner
2/2 L (AV2) (YC2)	Audio/video and S video signal	Audio/video signal from selected source
3/3 G H (AV3)	Audio/video signal and	No outputs
3/3 G I (YC3)	Audio/S video signal	

To watch a video input picture, press 2 until the desired video input appears.
To return to the normal TV picture, press 2 repeatedly or press 3.

Note: If you have a decoder, connect it to 1 M.

Connecting a VCR Using the TV Aerial Terminal

Connect the aerial output of the VCR to the aerial terminal K of the TV. It is recommended to tune in the VCR signal to programme number "0". For details, see "Tuning in to Channels Manually" on page 6.

Note: S video input (Y/C input) I L
Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals.
Separating the Y and C signals prevents them from inter-

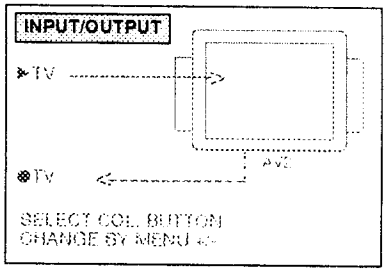
Checking and Selecting the Input and Output Sources Using the Menu

You can display a menu screen to see which input and output source are selected. You can also change the selection using this menu.

Checking the Input and Output Sources

1 **Press MENU 7.**
The MENU screen appears

2 **Press the blue button 17 to select INPUT/OUTPUT.**
The INPUT/OUTPUT screen appears.



Selecting an Input Signal

Press the red button 17 to select INPUT. Press MENU +/– 9 to select the desired input source.
You can select among the following sources:

TV ↔ AV1 ↔ RGB ↔ AV2 ↔ YC2 ↔ AV3 ↔ YC3

Selecting an Output Signal

The 2 /2 connector L outputs the source input from the other connectors. Press the green button 17 to select OUTPUT. Press MENU +/– 9 to select the desired output source.

You can select among the following sources:

TV ↔ AV1 ↔ AV2 ↔ YC2 ↔ AV3 ↔ YC3

Note: Press MENU 7 twice or wait until the menu displays disappear automatically to return to the normal screen.

Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VCRs or video disc players.

Tuning the Remote Commander to the equipment

1 **Set the VTR 1/2/3 MDP selector 20 according to the equipment you want to control:**
VTR 1: Beta VCR
VTR 2: 8mm VCR
VTR 3: VHS VCR
MDP: Video Disc Player

2 **Use the buttons 21 to operate the additional equipment.**

Note: If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.
Note: If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.
Note: When you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

Using Headphones

You can utilise headphones. Connect them to the headphone jack J, then the sound from the speakers goes off.

Note: You can't control the sound adjustment except for volume.

For your information

Troubleshooting

Here are some simple solutions to problems which may affect the picture and sound.

No picture (screen is dark), no sound

- Plug the TV in.
- Press ⏻ A on the TV. (If the standby indicator B is lit, press ⬭ 3 or any number button 4 on the Remote Commander.)
- Check if the selected video source is on.
- Turn the TV off for three or four seconds and then turn it on again using ⏻ A.

Poor or no picture (screen is dark), but good sound

- Press MENU 7 to enter the MENU screen, and press the red button 17, then adjust ◑ and .

Good picture but no sound

- Press +/− 19.
- If 🔇 is displayed on the screen, press 🔇 1.

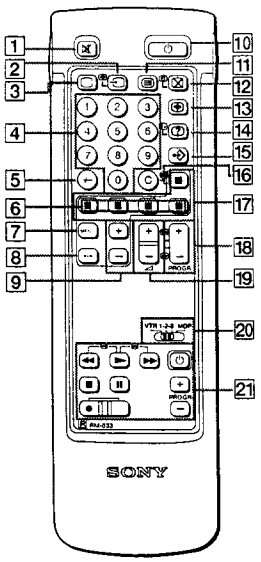
No colour for colour programmes

- Press MENU 7 to enter the MENU screen, and press the red button 17, then adjust ◑.

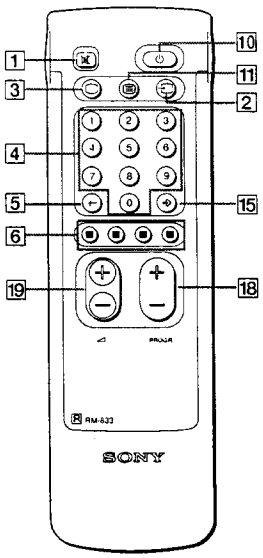
Remote Commander does not function

- Replace the battery.

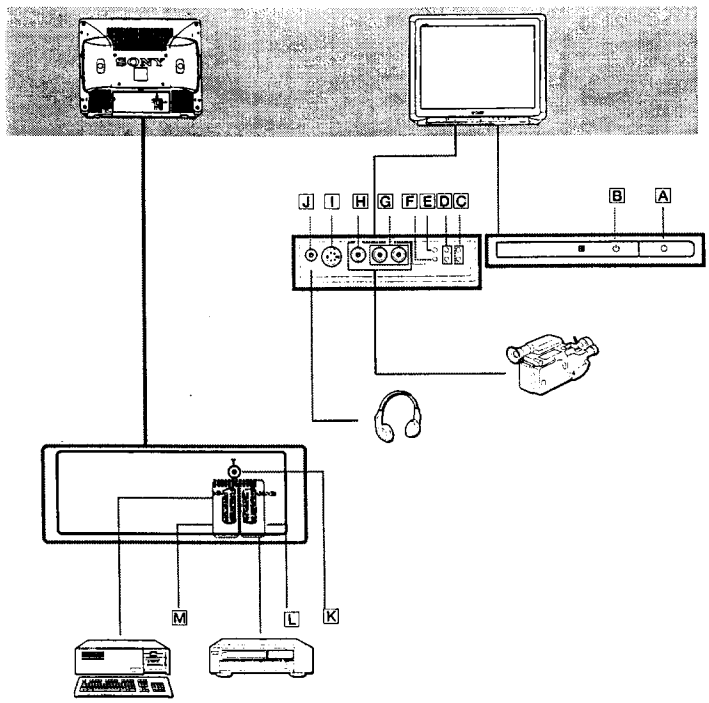
If you continue to have problems, have your TV serviced by qualified personnel. Never open the casing yourself.



Full-Function Side
Полно функционална
Teljes Funkciós Oldal
Strana se všemi Funkcemi
Strona Funkcji Zlozonych
Страна с Всички Функции

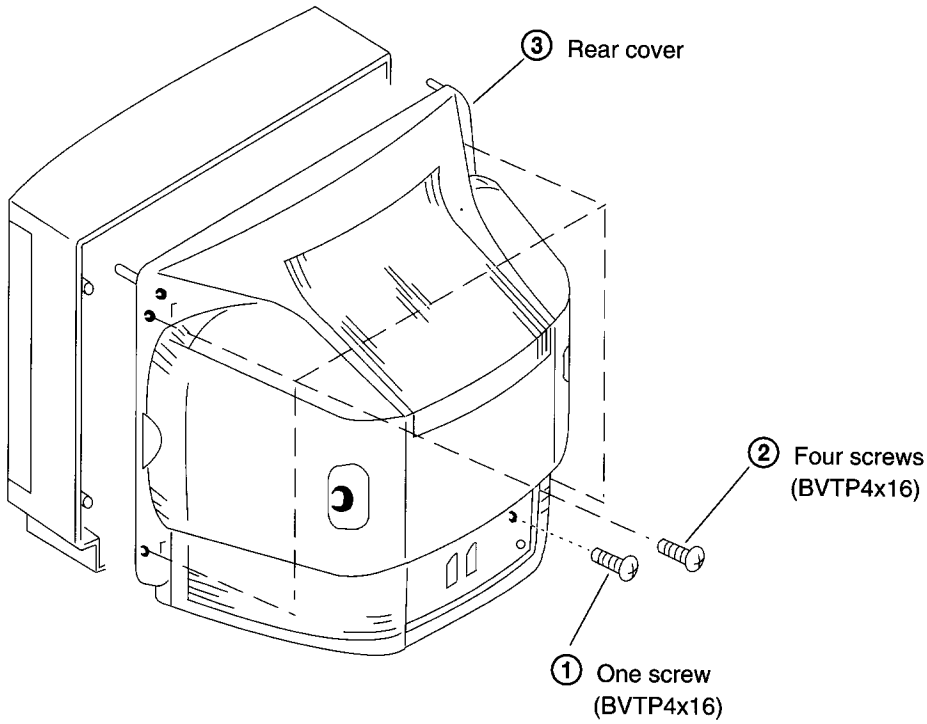


Simple Side
Простая Сторона
Egyszerü Oldal
Jednoduchá Strana
Strona funkcji podstawowych
Страна с Оиростени Функции

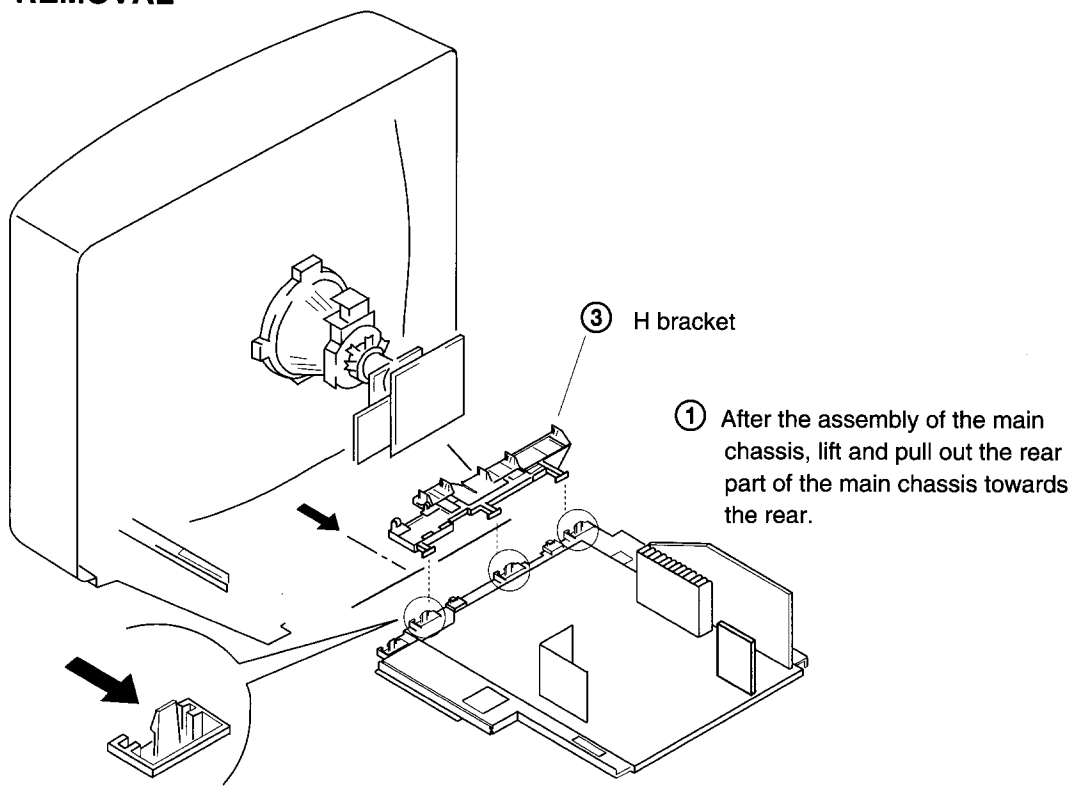


SECTION 2
DISASSEMBLY

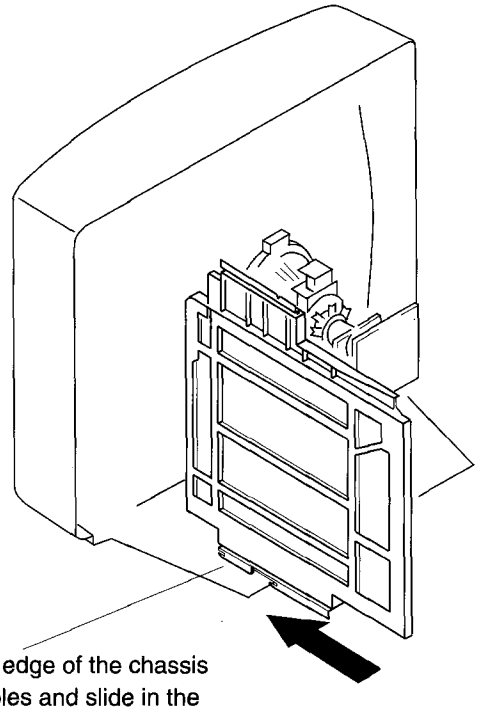
2-1. REAR COVER REMOVAL



2-2. CHASSIS ASSY REMOVAL

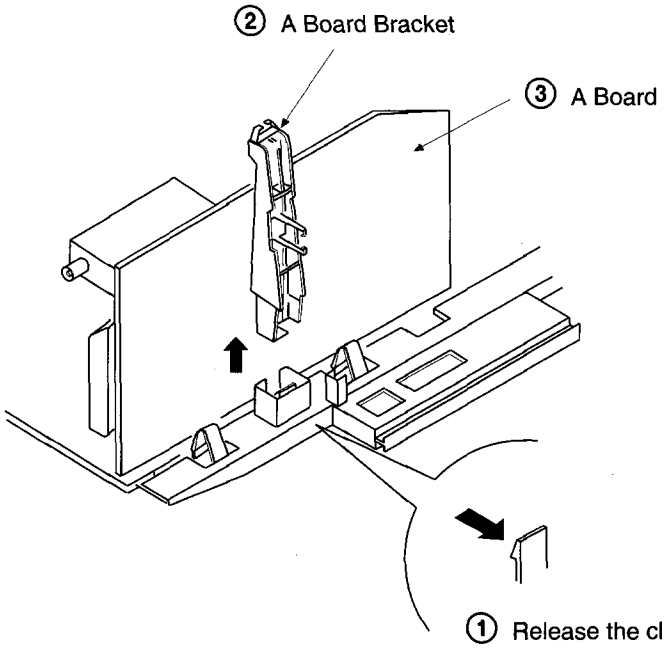

③ H bracket
① After the assembly of the main chassis, lift and pull out the rear part of the main chassis towards the rear.
② Push the three claws of the main chassis in the direction of the arrow and remove the H bracket upwards.

2-3. SERVICE POSITION



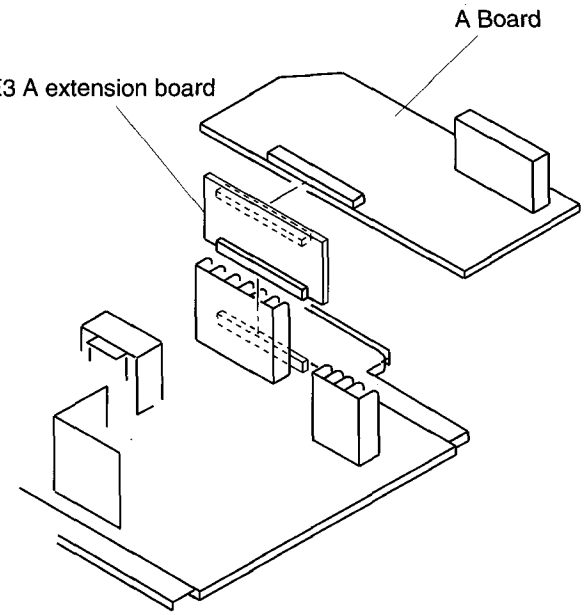
Locate the 2 slots on the edge of the chassis bracket in the locating holes and slide in the direction of the arrow

2-4. A BOARD REMOVAL

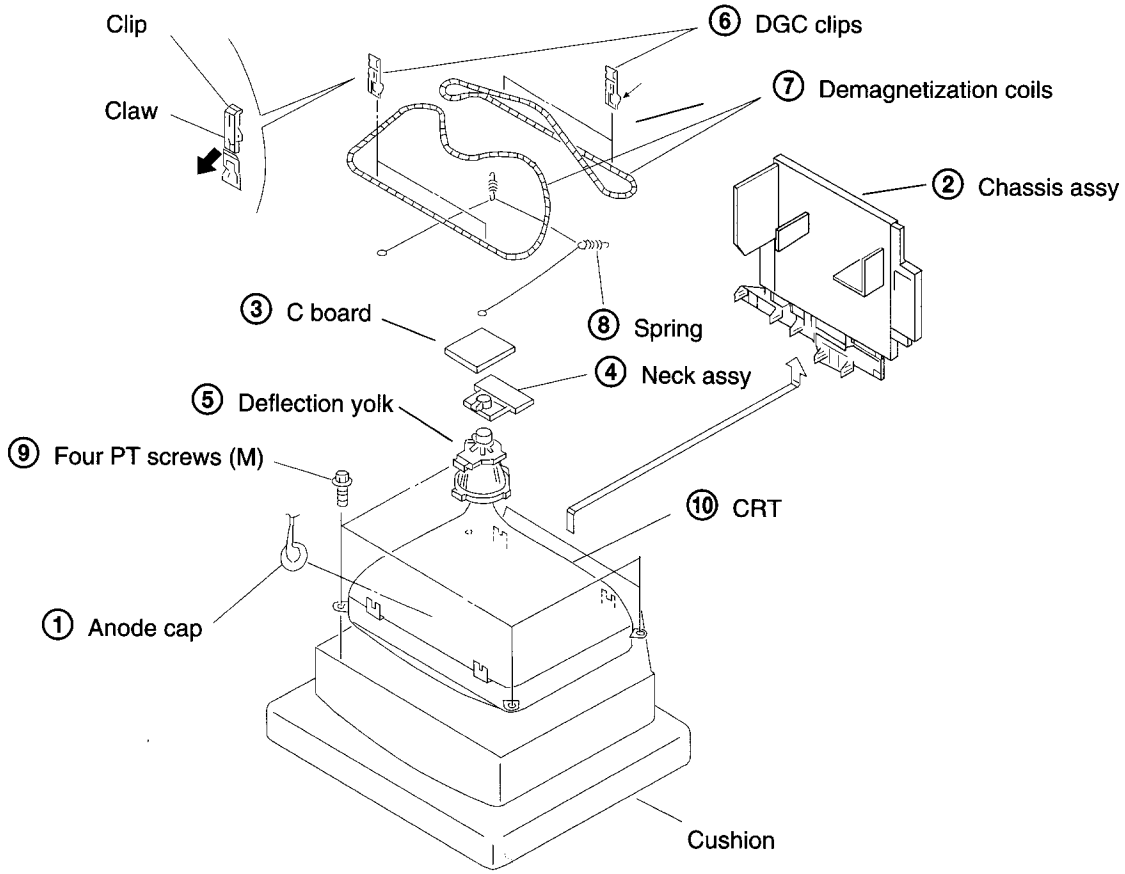


① Release the clip by pressing in the direction of the arrow, shown and lift out the A board bracket

2-5. EXTENSION BOARD



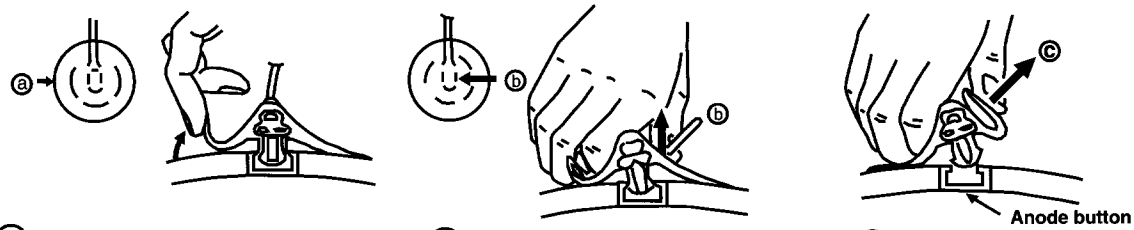
2-6. PICTURE TUBE REMOVAL



• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

*** REMOVING PROCEDURES.**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ

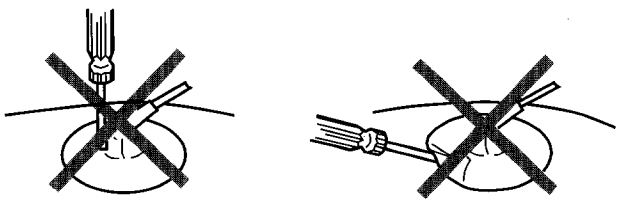
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

• HOW TO HANDLE AN ANODE-CAP

① Don't damage the surface of anode-cap with sharp shaped material !

② Don't press the rubber hardly not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built into the rubber.

③ Don't turn the foot of rubber over hardly !
The shatter-hook terminal will stick out or damage the rubber.



SECTION 3
SET - UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to these settings :

◑ Contrast ..... 80% (or remote control normal)
☼ Brightness 50%

- Carry out the following adjustments in this order :

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Testing equipment required.
1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparation:
- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   CONTRAST } normal
   BRIGHTNESS }
2. Position neck assy as shown in Fig.3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke forward and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig. 3-1 - 3-3)
5. Move the deflection yoke forward and adjust so that the entire screen becomes red. (See Fig. 3-1)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig. 3-4)

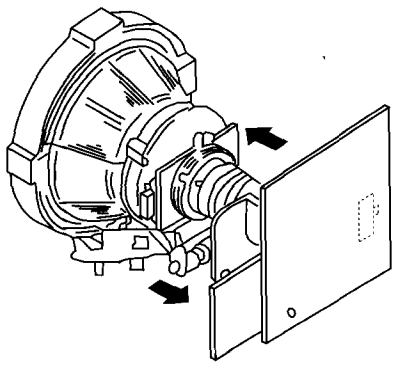


Fig. 3-1

Fig. 3-2

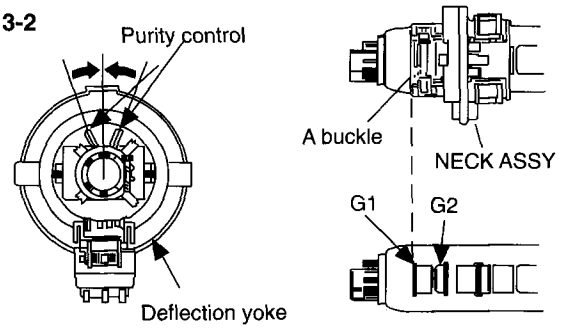
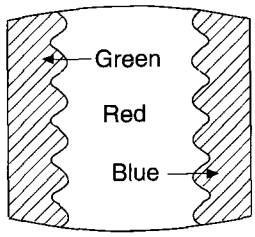


Fig. 3-3



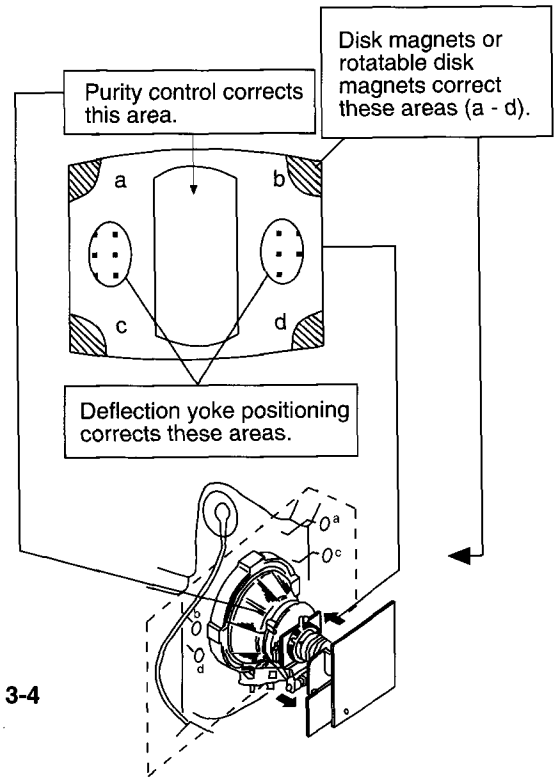


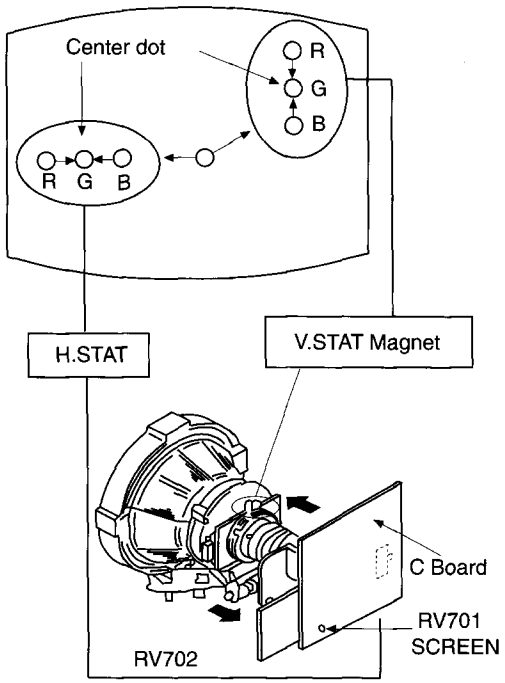
Fig. 3-4

3-2. CONVERGENCE

Preparation:

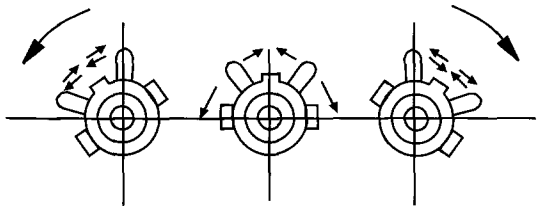
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide a dot pattern.

(1) Horizontal and vertical static convergence

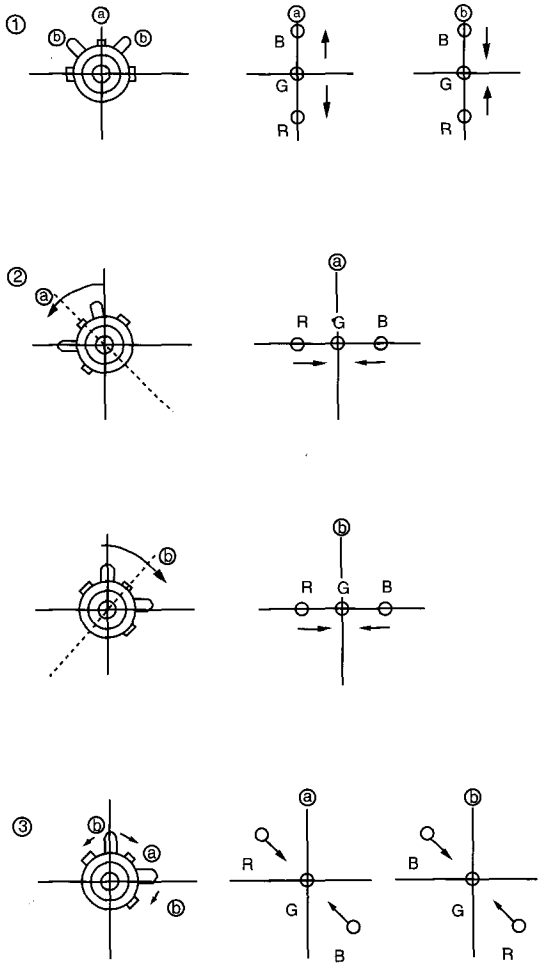


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

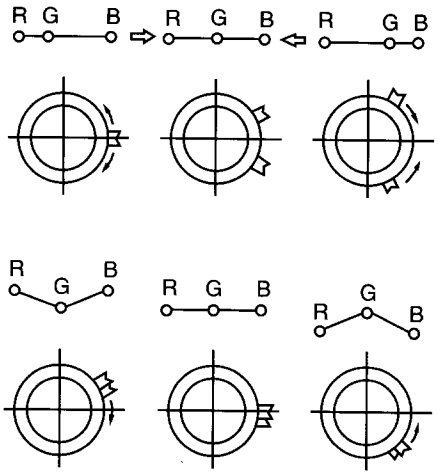
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

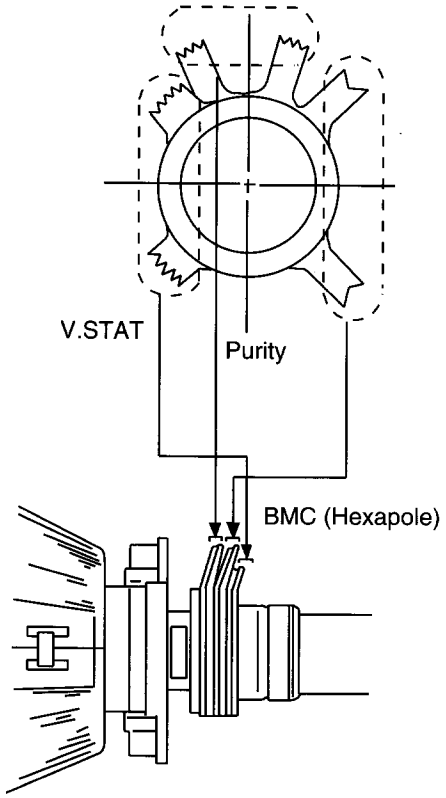


4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.



- Operation of BMC (Hexapole) Magnet





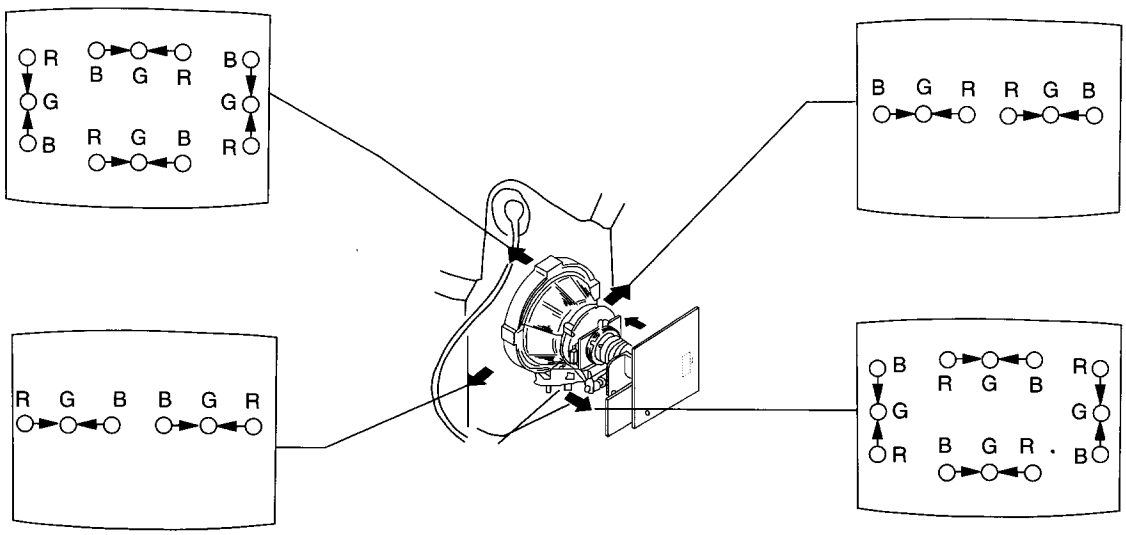
- The respective dot position resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of the screen (by moving the dots in the horizontal direction).

(2) Dynamic convergence adjustment.

Preparation:

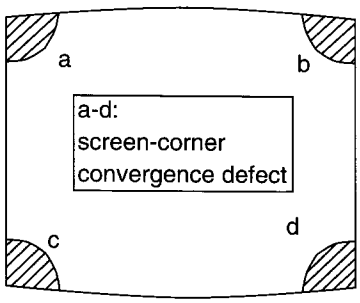
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

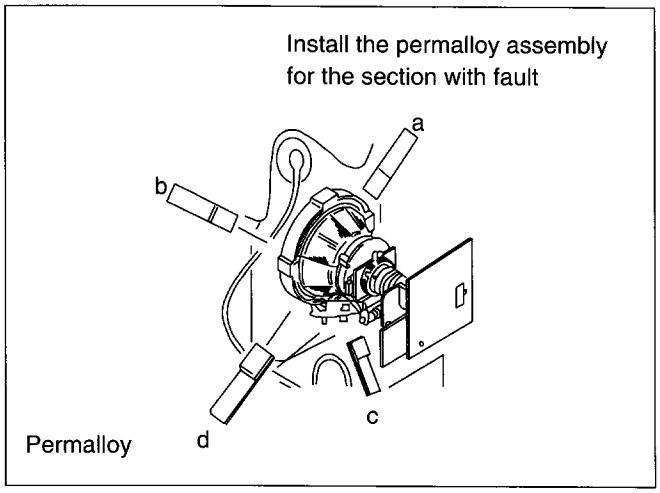
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Re-install the deflection yoke spacer.



(4) Screen corner convergence.

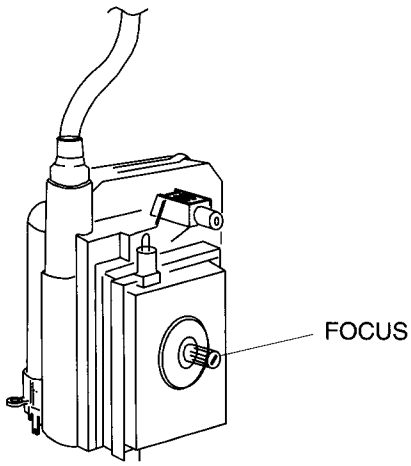
If you are unable to adjust the corner convergence properly, correct them with the use of permalloy assemblies.





3-3. Focus

Adjust the focus to optimize the screen.



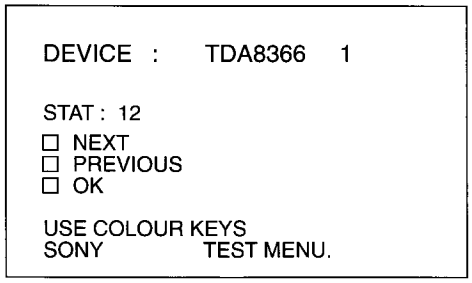
3-4. WHITE BALANCE

Screen G2 Setting

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

White balance adjustment

1. Receive an all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" on how to enter service mode.)
3. Select TDA8366 1 on menu.



4. Press the White button on the Remote Commander to enter into the device Menu.
5. Press the Red button 10 times "Next" "Next" "Next" to select HWB RED, adjust to 32.
6. Press the Red button to select HWB GREEN, adjust with the + and - menu buttons so that the white balance becomes optimum.
7. Press the Red button to select HWB BLUE, adjust with the + and - menu buttons so that the white balance becomes optimum.
8. Press the TV button twice on the Remote Commander to store the data and return to TV operation.

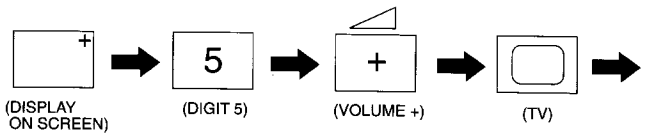
SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-833.

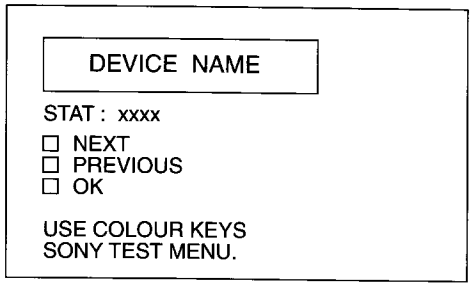
HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set and enter into standby mode.
2. Press the following sequence of buttons on the Remote Commander.

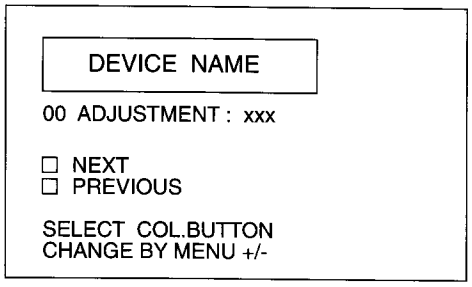


"TT " will appear in the top right corner of the screen. Other status information will also be displayed.

3. Press the MENU button on the Remote Commander to obtain the menu on the screen.



4. Press the Red (Next) and Green (Previous) buttons to select the device corresponding to the adjustment item from the table. Then press the White button (OK).



5. Press the Red (Next) or Green (previous) buttons to select the adjustment item. Then press the ▽ and △ buttons to change the data to comply with each standard.

6. Turn off the power to quit the service mode when adjustments are completed.

Initial Conditions for setup of TDA8366, TDA6612, TDA6622 and SAA7283. (Stereo Models Only)

TDA8366 1	INIT VALUE	TDA8366 2	INIT VALUE
Hue	31	Interlace	00
H Shift	Adj	Sync Mode	00
H Size	Adj	Col Dec	00
Pin Amp	Adj	Vert Div	00
Corn Pin	Adj	Vid ID	00
Tilt	Adj	EHT Track	01
V.Linear	Adj	En V Grd	00
V.Size	Adj	Serv Blk	00
S.Corr	Adj	OVP Mode	00
V.Cent	Adj	Aspect R	00
HWB Red	Adj	Start Freq	00
HWB Green	Adj	Y/C Input	00
HWB Blue	Adj	PAL/NTSC	00
Peaking	8	Xtal PLL	00
Bright	32	Y Delay	07
Colour	32	RGB Blk	00
Picture	37	Noise Cor	00
AGC Set	00	Fast Blk	01
Srce Sel 1	00	AFC Wind	00
Srce Sel 2	00	IF Sensty	00
Time Con	03	Mod Std	00
Xtal Ind	03	Vid Mute	01
FF Freq	02		

TDA6612 (TDA6622 for UKmodel.)	INIT VALUE	TDA6612 (TDA6622 for UKmodel.)	INIT VALUE
MPX Per	00	Mute 2	01
Quasi St	00	C1/2LS	00
Bass Exp	00	C1/2KH	00
H Pulse	00	Mono	01
Matrix St	00	Scart	00
Bypass	00	Scart D	00
Vol L Sp	07	AM	00
Vol R Sp	07	SAA7283	INIT VALUE
Vol HP	00	Mon M1/M2	01
Pll Sync	00	DM Select	01
Mute 3	01	SSWIT 123	07
Treble	08	Port 2	00
Bass	09	Mute Def	00
X Talk Adj	Adj	AMDIS	00
Mute 1	00	E Max	80
		E Min	01

4-2. TEST MODE 2 :

Is available by pressing Test button twice, OSD 'TT ' appears. The functions described below are available by pressing the two numbers. To release the Test Mode 2, press 0 twice, or switch the TV into Stand-by Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Ageing Condition (Volume min., Picture max., Brightness max.
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	"Menu" Flag request
10	Tenth entry is deleted
11	dummy
12	dummy
13	dummy
14	Forced AV 16:9 detection on/off
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM.
17	Preset Label for AV Sources
18	RGB Priority on/off
19	Clear all preset labels
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24	Set destination = U RGB Priority = Off
25	Set destination = D RGB Priority = Off
26	Set destination = B RGB Priority = On
27	Set destination = K RGB Priority = Off
28	Set destination = L RGB Priority = Off
29	Set destination = E RGB Priority = Off
30	Tenth entry is deleted
31	Set Destination = A RGB Priority = On
32	dummy
33	Auto AGC
34	N/S Pin Adjust
35	Manual AGC Adjust
36	dummy
37	dummy
38	To Activate Rotation Coil Adjustment
39	'Check Rotation Coil Adjustment
40	Tenth entry is deleted
41	Re-initialise NVM
42	Production use only
43	Initialise Geom Settings
44	Initialise all favorite pages = 100
45	Channel locks = off
46	IR Channel Pressetting Mode The channel pressetting can be done by a Special IR Transmitter (Ver 2 and above software only)
47	dummy
48	Set NVM testbyte to 44h
49	Erase the NVM Testbyte (this byte detects already stored NVM's) After selecting this function, switch TV Off and On -> the NVM will be preset by µ-Controller.

In Test Mode the Menu display is switchable by the Speaker-Off button.

Note : For Test Modes 41 - 49 it is necessary to ensure that the TV is set to Prog 59.

SUB BRIGHTNESS ADJUSTMENT

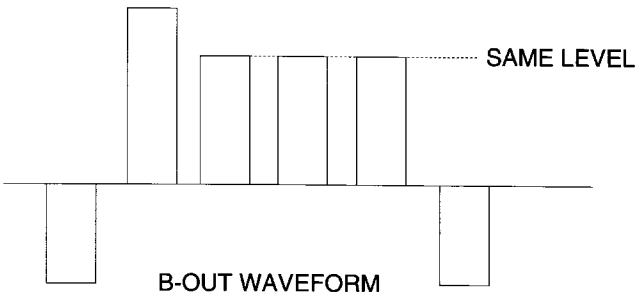
1. Input a Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of grey scale and CUT-OFF 20-IRE are only slightly visible on screen.

SUB CONTRAST ADJUSTMENT

1. Input a video that contains a small 100% area on a Black Background.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Connect oscilloscope to pin ① of CN703 (R OUT) and adjust HWB Red data of TDA8366 1 to obtain 2.3Vp-p.

SUB COLOR ADJUSTMENT

1. Input a PAL color bar signal.
2. Connect an oscilloscope to pin ③ of CN703 (B OUT) on the C board.
3. Enter into service mode and press 22.
4. Adjust data so that the right sides of the waveform are set to the same level.



STEREO SEPARATION ADJUSTMENT

1. Input a 1KHz stereo signal to the L-ch and a 400Hz stereo signal to the R-ch.
2. Enter into service mode and select the "Test Menu" to be TDA6612. (TDA6622 UK Models)
3. Select the Stereo Xtalk Adjustment Menu, by using the Red (Next) and Green (Previous) buttons.
4. Monitor the Scart 1 L-channel output and adjust the data so that the R-channel sound is not detected in the L-channel.

I.F. COIL ADJUSTMENT (T101) - B/G, D/K, I AND L STANDARD FOR CONTINENTAL MODELS.

1. Apply a 38.9MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for negative modulation.
3. Measure the voltage at the AFT test point and adjust (T101) to obtain 2.4V +/- 0.2V.

I.F. COIL ADJUSTMENT (T101) - I, STANDARD FOR U.K. MODELS.

1. Apply a 39.5MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for negative modulation.
3. Measure the voltage at the AFT test point and adjust (T101) to obtain 2.4V +/- 0.2V.

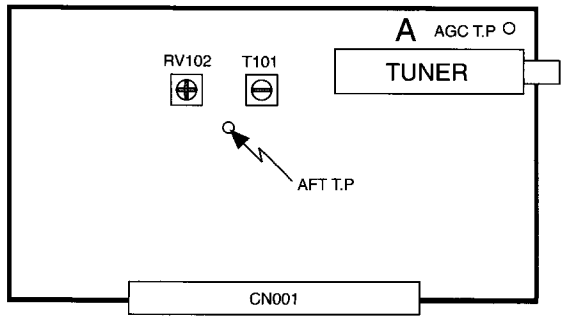
L, BAND 1 ADJUSTMENT (RV102) - L, STANDARD FOR FRENCH MODELS.

1. Apply a 33.95MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for positive modulation and system L band 1.
3. Measure the voltage at the AFT test point and adjust (RV102) to obtain 2.4V +/- 0.2V.

Note : Only adjust RV102 after T101 has been correctly adjusted.

AGC ADJUSTMENT

1. Receive an off- air signal.
2. Enter the service mode, ("Test" "Test") and 35.
3. Adjust the data so that there is no snow or cross - modulation visible on the screen.
4. Change the receiving off-air channel, and confirm the above status.



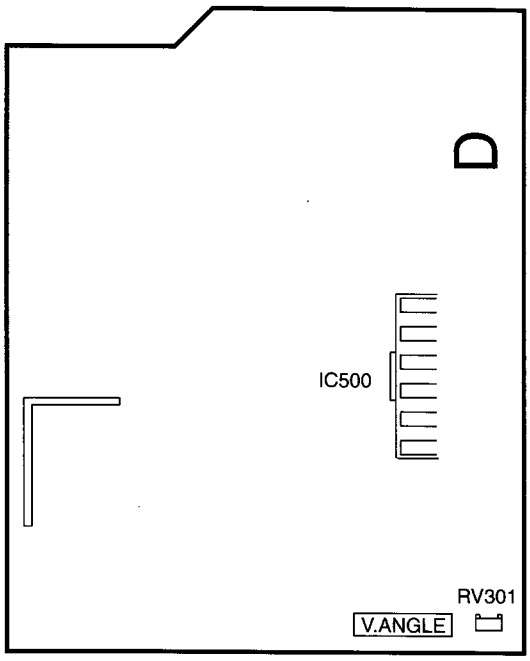
- A Board component side -

DEFLECTION SYSTEM ADJUSTMENT

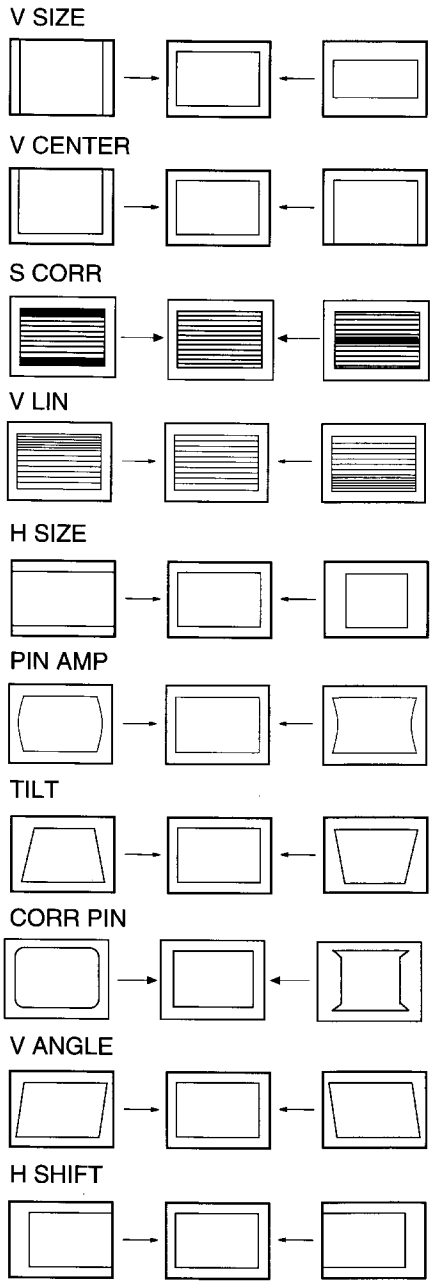
1. Enter into service mode.
2. Select and adjust each item in order to obtain the optimum image.

Item No	Adjustment item.	Data Amount
03	H SHIFT	ADJ.
04	H SIZE	ADJ.
05	PIN AMP	ADJ.
06	CORR PIN	ADJ.
07	TILT	ADJ.
08	V LINEAR	ADJ.
09	V SIZE	ADJ.
0A	S CORR	ADJ.
0B	V CENTER	ADJ.

Note : V ANGLE is adjusted by a Variable Resistor on the 'D' Board (RV301)

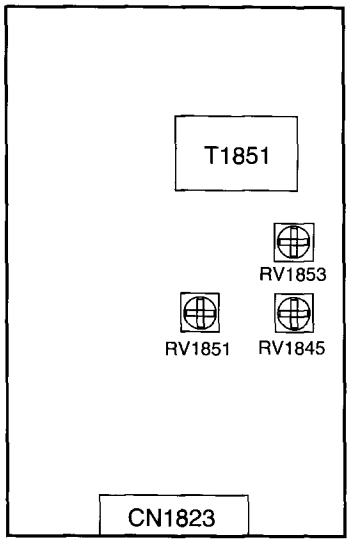


- D Board Component Side -

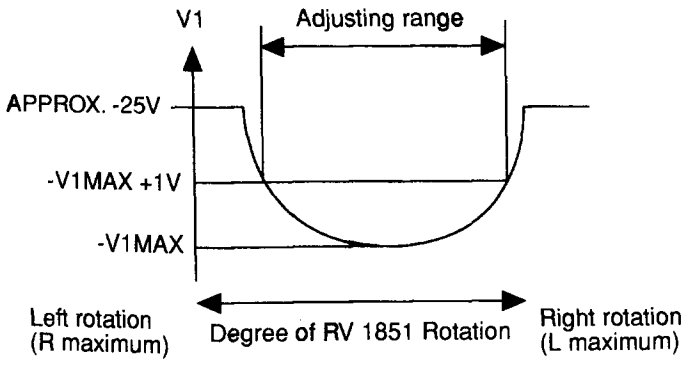


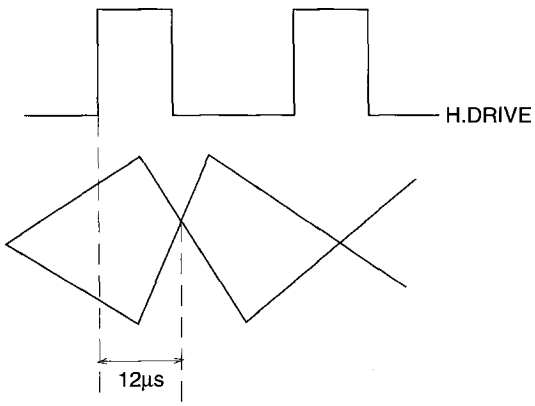
PULSE WIDTH & V-PIN ADJUSTMENTS (RV 1851/1853)

D2 BOARD



1. Connect an oscilloscope to pin 2 of T1851.
2. Preset RV-1853 to center of its range (mechanical center).
3. Adjust RV-1851 to obtain minimum amplitude.
4. Switch the oscilloscope input to D.C. and adjust RV-1853 to obtain -33.2 ± 0.5V.
5. Adjust RV-1845 so that the difference between leading edge of H-drive pulse and V-pin out is 12µs.





4-3. BE-3B SELF DIAGNOSTIC SOFTWARE

The identification of errors within the BE-3B chassis is triggered in 1 of 2 ways :- 1: Bus busy or 2: Device failiure to respond to IIC. In the event of one of these situations arrising the software will first try to release the bus if busy (Failiure to do so will report with continous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the led (Series of flashes which must be counted) See Table 1., on fatal errors are reported with this method.

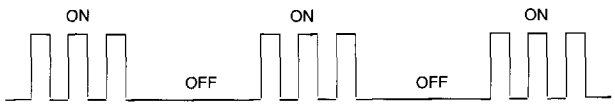
If a fatal error is found the set will simply stay in whichever state it was when the error occured, but if a non fatal error occurs the set will try to continue operation.

Table 1

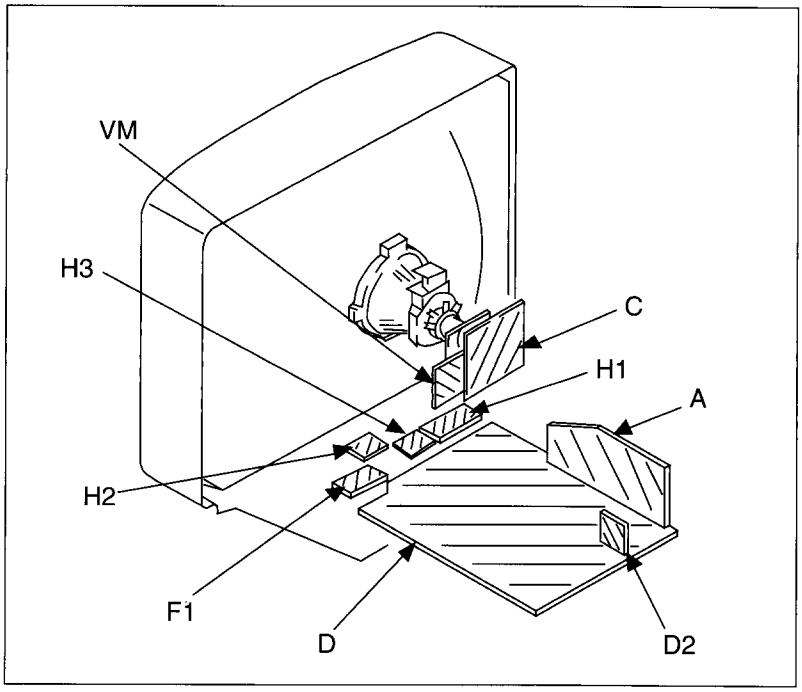
Device	LED Error Count	Fatal Error
NVM	2 .. 9	√
Teletext	10	
Jungle	11	√
Video_sw	12	
Tuner	13	√
Nicam	14	
Audio_cont	15	√

Flash Timing Example : e.g. error number 3.

Stby LED



5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.
  k = 1000 , M = 1000K
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm
Rating electrical power ¼ W

- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth - ground.
- ⏚ : earth - chassis.
- ## : no mounted.

Note : The components identified by shading and marked ⚠ are critical for safety. Replace only with the part number specified.

Note : Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

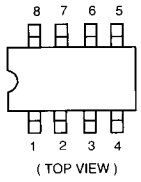
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ※	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

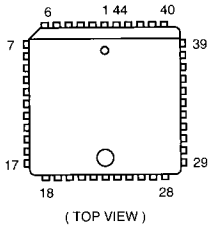
- Readings are taken with a colour-bar signal input.
- Readings are taken with 10MΩ digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

5-4. SEMICONDUCTORS

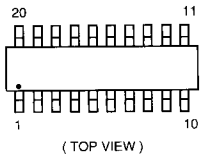
BA7046F



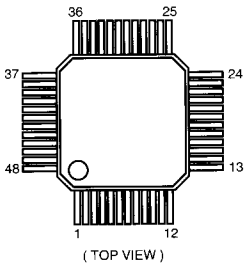
CF70200FN-R
CF70205FN-R



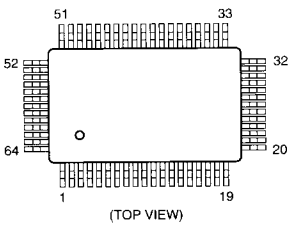
CF72416DW-R
TDA8395T



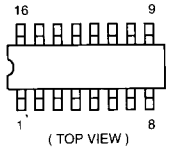
CXA1855Q



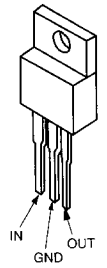
CXP85340A
SAA7283
TDA8366T



HD14053BFP
MC14053BF



LM2940CT-5.0
LM2940T-9.0
MCT7812CT
TA7812S
µPC2405HF



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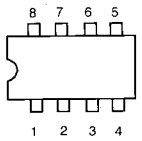
M5216P
TDA2822M
µPC393C



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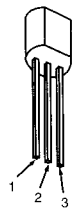

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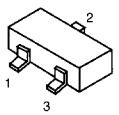
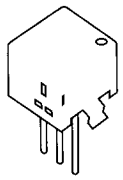


SBX1790-51



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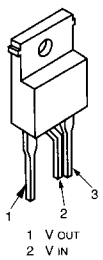
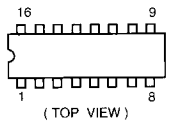
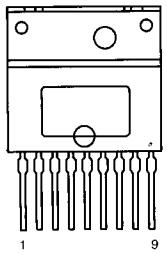


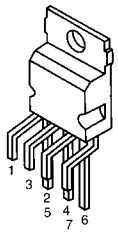
SN74LS221N



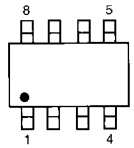
STR-S6708



STV9379



ST24E32M6



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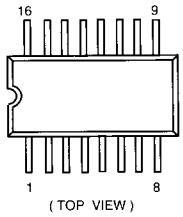

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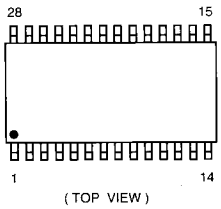
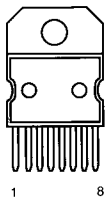
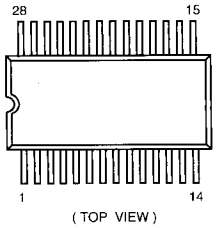
TDA6622-5X-GEG



TDA7264



TDA9813T
TDA9814T/V2



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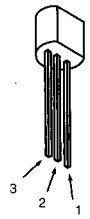

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JC501
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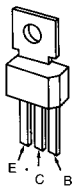
2SA733-K
2SC2389S-R
2SC2551-O
2SC2808S-R

BF871



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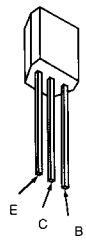
DTC114ES
DTC143TS
DTC144ES



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DTC123EK
DTC144EK
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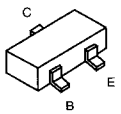
2SA1162-G
2SC2412K



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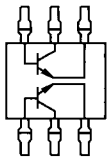

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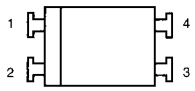

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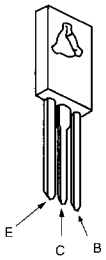

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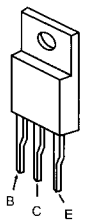

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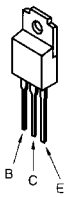
2SC4793
2SD1763A



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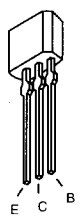

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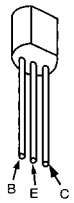

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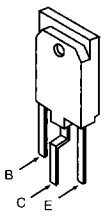

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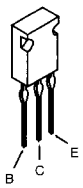
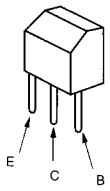
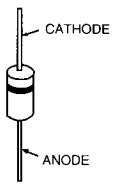


2SD774-34



AU-01Z-V1	GP08D
EGP20G	RGP02
EL1Z	RGP10GPKG23
EM1-V1	RGP15GPKG23
EU-1-V1	RU3YX
EU-1Z	RU4
FML-G12S	



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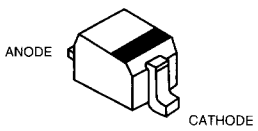
MA8330
1SS355
1SV214



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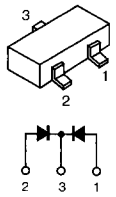
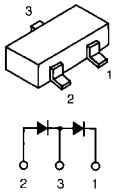
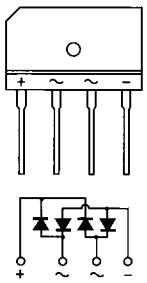
UMZ12N



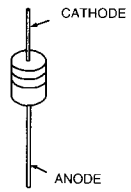
DA204K



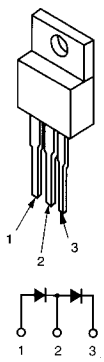
D4SB60L



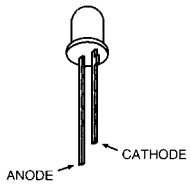
ERA85-009	MTZJ-9.1C
MTZJ-3.6A	MTZJ-39C
MTZJ-3.9B	RD3.9ESB2
MTZJ-4.7B	RD5.1ESB2
MTZJ-5.1B	RD5.6ESB2
MTZJ-5.6B	RD6.8ESB2
MTZJ-6.8C	RD7.5ESB2
MTZJ-7.5C	RD9.1ESB3
MTZJ-9.1	UZ-4.7BSC
MTZJ-9.1A	1SS133



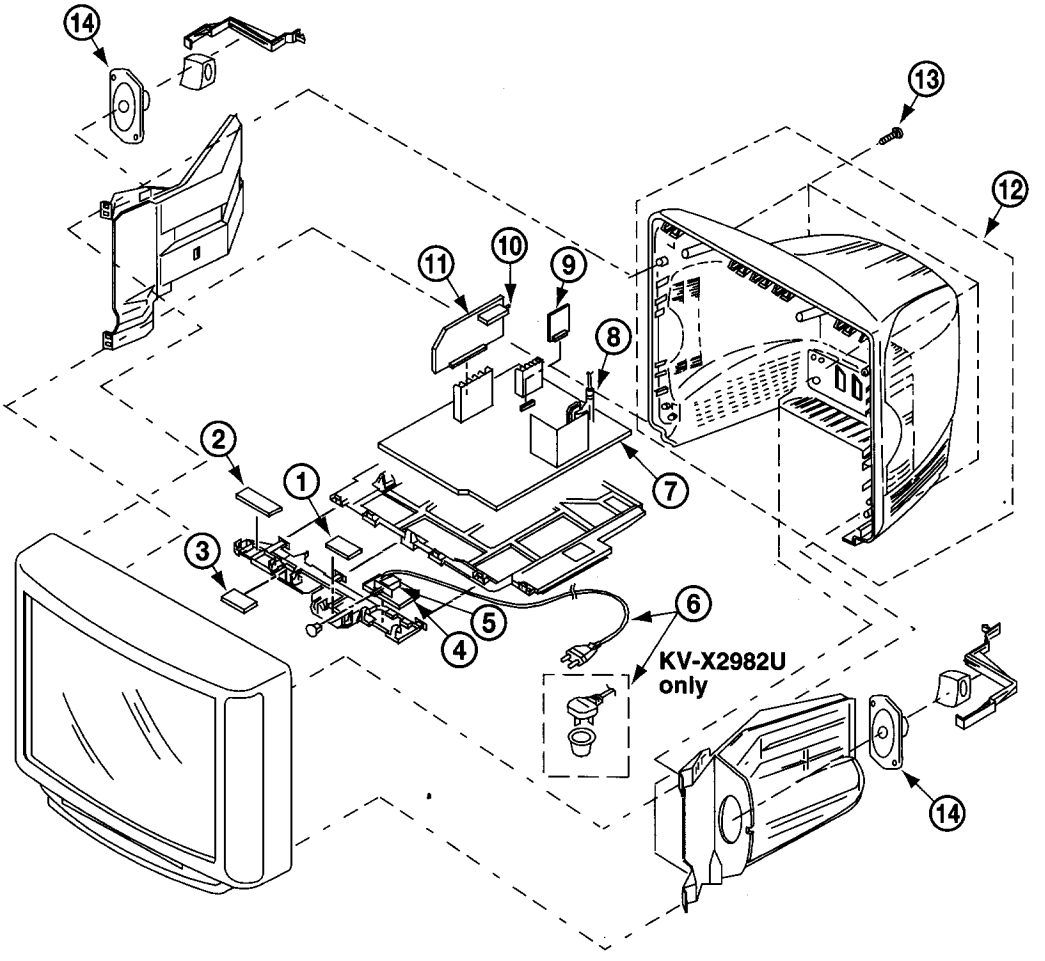
FMS-3FU



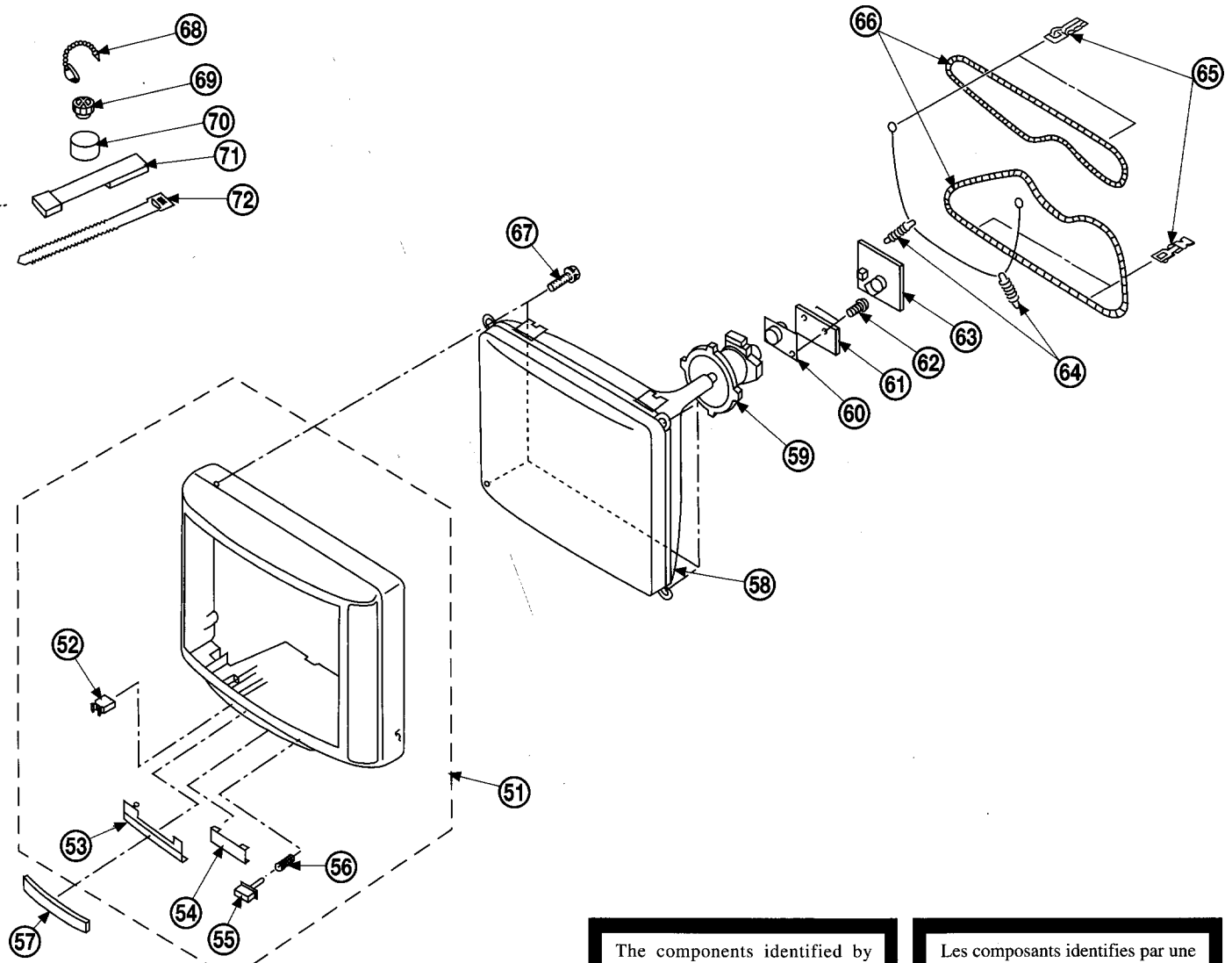
SLA-570KT3F



6-1. CHASSIS



6-2. PICTURE TUBE

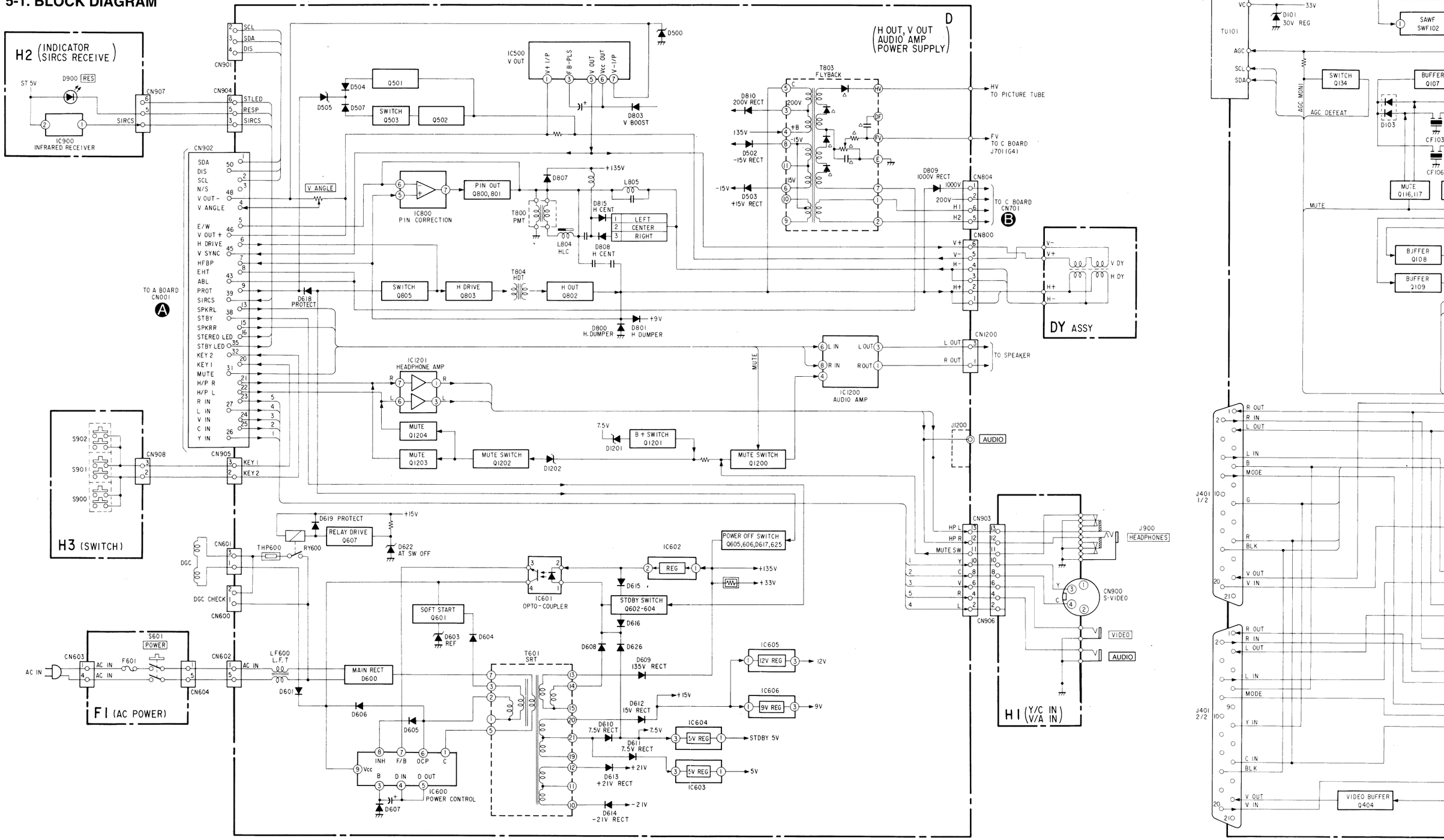


The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM



D

(H OUT, V OUT
AUDIO AMP
POWER SUPPLY)

T803
FLYBACK

D810
1000V RECT

D502
15V RECT

D503
15V RECT

D809
1000V RECT

CN804

CN800

CN1200

IC1200
AUDIO AMP

MUTE

MUTE SWITCH
Q1200

ER OFF SWITCH
05,606,D617,625

+135V

+33V

IC605
12V REG
12V

IC606
9V REG
9V

STDBY 5V

5V

HV
TO PICTURE TUBE

FV
TO C BOARD
J701(G4)

TO C BOARD
CN701
B

V DY

H DY

DY ASSY

TO SPEAKER

J1200

AUDIO

CN903

CN906

J900
HEADPHONES

CN900
S-VIDEO

VIDEO

AUDIO

HI (Y/C IN
V/A IN)

IC101
VIF/SIF

TU101

IF AMP
Q102

SAWF
SWF101

SAWF
SWF102

D101
30V REG

33V

SWITCH
Q134

AGC MONI

AGC DEFEAT

BUFFER
Q107

D103

CF103

CF104

CF106

MUTE
Q116,117

MUTE
Q123,124

T101
77.8MHz

CF102

AFT

AGC ADJ

SYS

BUFFER
Q130

BUFFER
Q133

IC202
SYNC SEP

SYNC SEP

PHASE
COMP

H OSC

SYNC AMP
Q120

OSC BUFFER
Q114

VIDEO AMP
Q132,131

IC201
AUDIO SELECT

BUFFER
Q108

BUFFER
Q109

IC1002
VIDEO PROCESSER

SYNC BUFFER
Q1001

IC1003
RGB SW

IC1001

X1001
13.875MHz

IC301
JUNGLE

IC302

IC303

D303

D304

D380

X301
3.58MHz
4.43MHz

AMP
Q314

VM AMP
Q381

VM OUT
Q313,312

MUTE
Q380

(HFBP)

SDA/SCL

AGC ADJ/AFT/SYS

SDA/SCL/AGC MONI/AGC/MUTE

J401
1/2

J401
2/2

IC401
A/V SELECT

V BUFFER
Q403

BUFFER
Q402

VIDEO BUFFER
Q404

BLK BUFFER
Q406

D1002
SWITCH

RGB PROT
Q401

SWITCH
Q12

SWITCH
Q14

IC001
MICRO COMPUTER

IC002
NVM

AMP
Q11

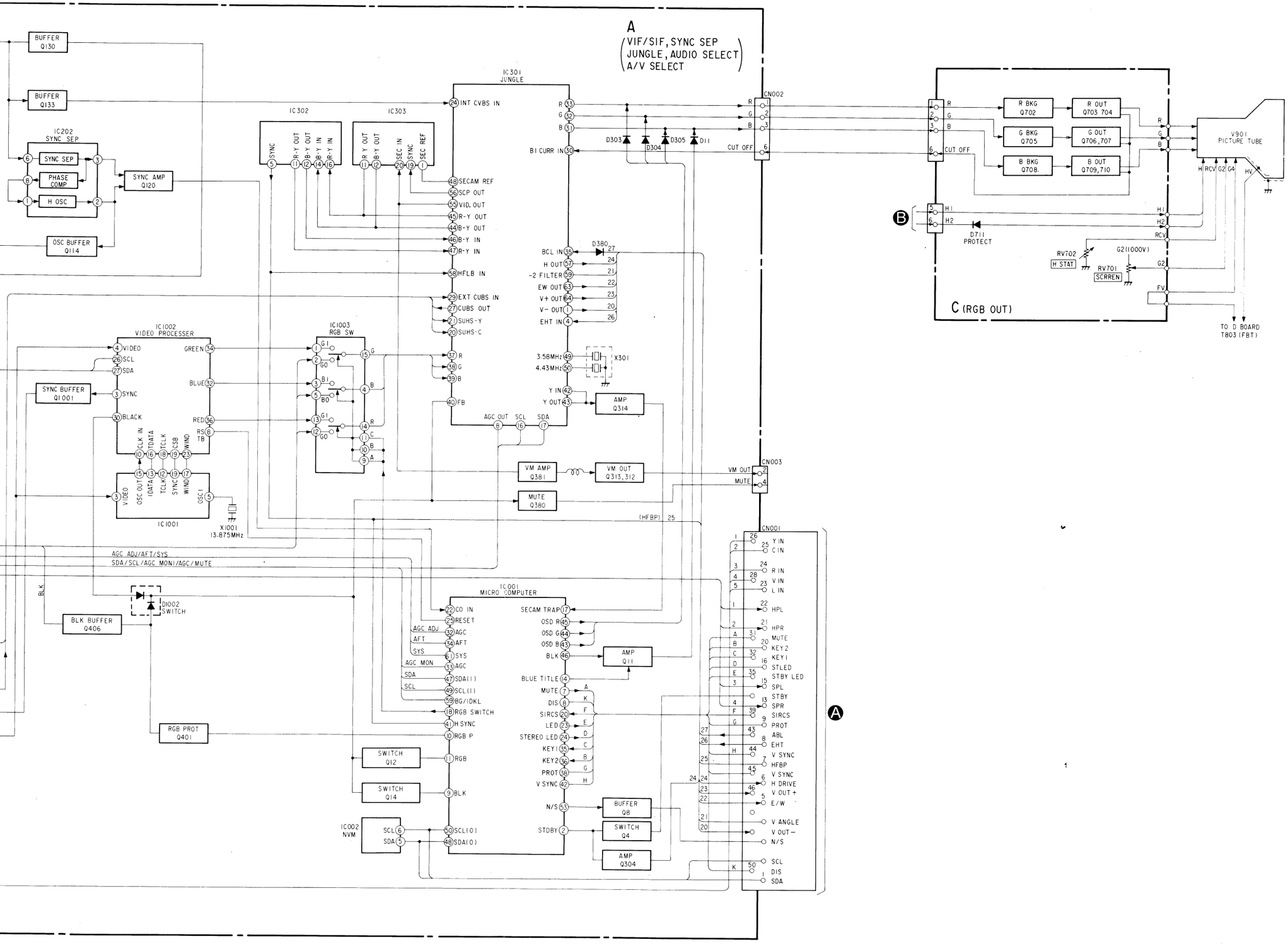
BUFFER
Q8

SWITCH
Q4

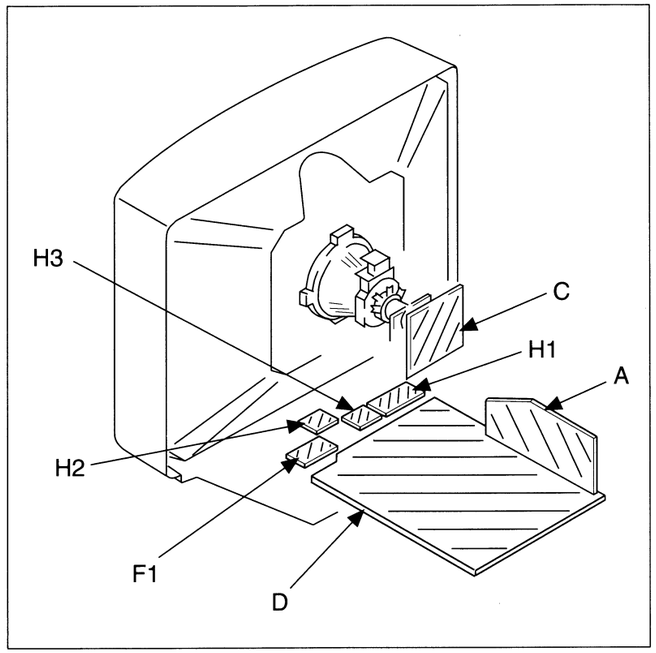
AMP
Q304

A

(VIF/SIF
JUNGLE,
A/V SEL


A
(VIF/SIF, SYNC SEP
JUNGLE, AUDIO SELECT
A/V SELECT)
BUFFER Q130
BUFFER Q133
IC202 SYNC SEP
SYNC SEP
PHASE COMP
H OSC
SYNC AMP Q120
OSC BUFFER Q114
IC301 JUNGLE
IC302
IC303
INT CVBS IN
SECAM REF
SCP OUT
VID. OUT
R-Y OUT
B-Y OUT
B-Y IN
R-Y IN
HFLB IN
EXT CUBS IN
CUBS OUT
SUHS-Y
SUHS-C
BCL IN
H OUT
-2 FILTER
EW OUT
V+ OUT
V- OUT
EHT IN
3.58MHz
4.43MHz
X301
Y IN
Y OUT
AMP Q314
AGC OUT
SCL
SDA
D303
D304
D305
D11
B1 CURR IN
CUT OFF
CN002
D380
IC1002 VIDEO PROCESSER
IC1003 RGB SW
SYNC BUFFER Q1001
IC1001
X1001 13.875MHz
VM AMP Q381
VM OUT Q313,312
MUTE Q380
CN003
VM OUT
MUTE
(HFBP)
CN001
AGC ADJ/AFT/SYS
SDA/SCL/AGC MONI/AGC/MUTE
BLK
D1002 SWITCH
BLK BUFFER Q406
RGB PROT Q401
IC001 MICRO COMPUTER
SWITCH Q12
SWITCH Q14
IC002 NVM
BUFFER Q8
SWITCH Q4
AMP Q304
AMP Q11
R BKG Q702
R OUT Q703 704
G BKG Q705
G OUT Q706,707
B BKG Q708.
B OUT Q709,710
V901 PICTURE TUBE
D711 PROTECT
RV702 H STAT
RV701 SCRREN
G2(1000V)
C (RGB OUT)
TO D BOARD T803 (FBT)
Y IN
C IN
R IN
V IN
L IN
HPL
HPR
MUTE
KEY2
KEY1
STLED
STBY LED
SPL
STBY
SPR
SIRCS
PROT
ABL
EHT
V SYNC
HFBP
V SYNC
H DRIVE
V OUT+
E/W
V ANGLE
V OUT−
N/S
SCL
DIS
SDA

5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in μF unless otherwise noted.
  pF : μμF 50WV or less are not indicated except for electrolytic.
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

Pitch : 5mm Rating electrical power : ¼W

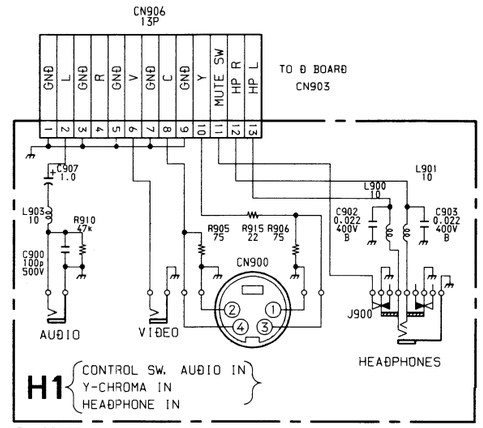
- Chip resistor is in 1/10W.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000KΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation or adjustment for repair.
- All variable and adjustable resistors have charactristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- : B+ bus.
- : B− bus.
- : signal path.(RF)
- : earth - ground
- : earth - chassis

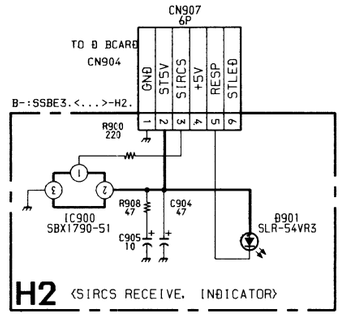
Reference information

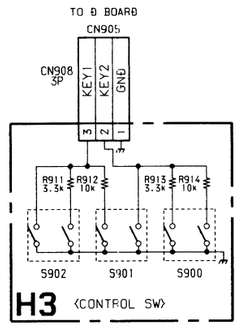
RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

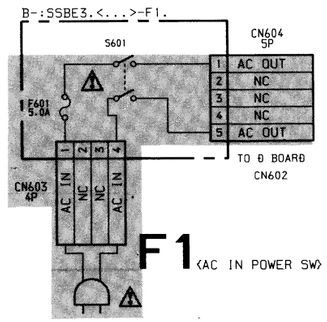
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.



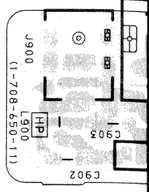




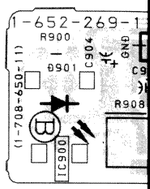


H1 [CO Y-C

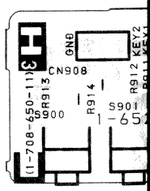
– H1 BOARD –



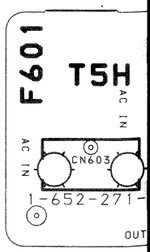
– H2 BOARD –

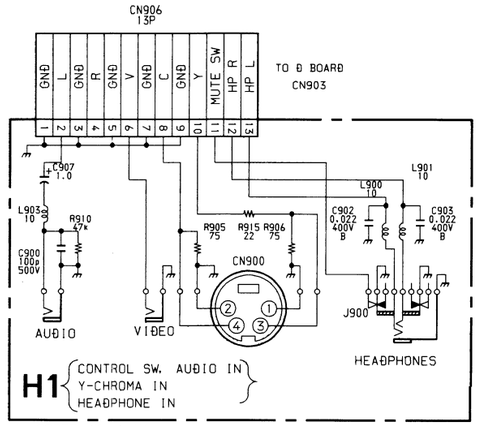


– H3 BOARD –

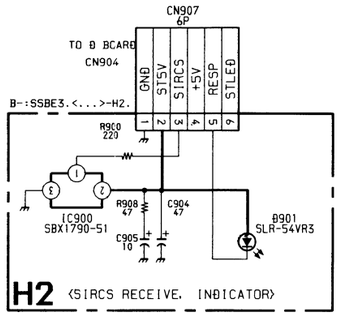


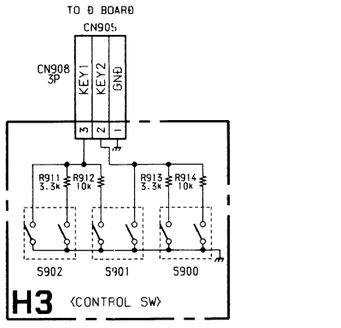
– F1 BOARD –



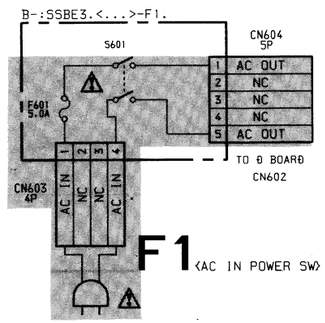


B-:SSBE3.<M..>-H1.



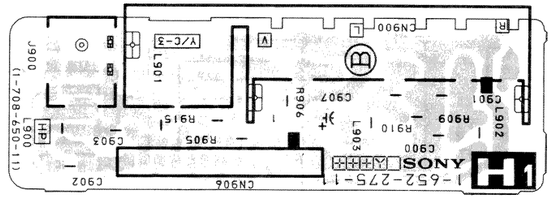


B-:SSBE3.<...>-H3.

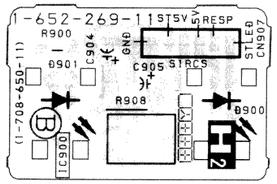


H1 [CONTROL SW, AUDIO IN Y-CHROMA IN, HEADPHONE IN] **H2** [SIRCS RECEIVE INDICATOR] **H3** [CONTROL SW] **F1** [AC IN POWER SW] **D** [HV OUT PIN OUT POWER SUPPLY]

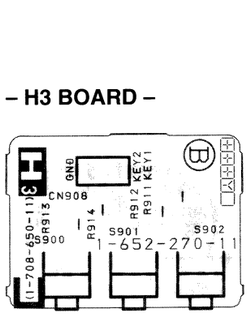
– H1 BOARD –



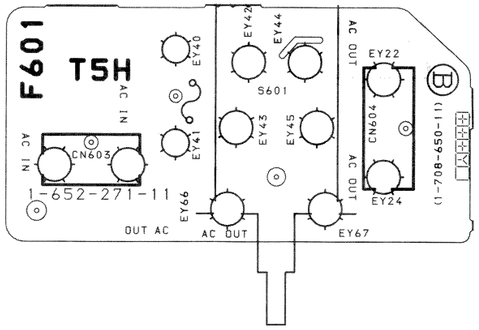
– H2 BOARD –



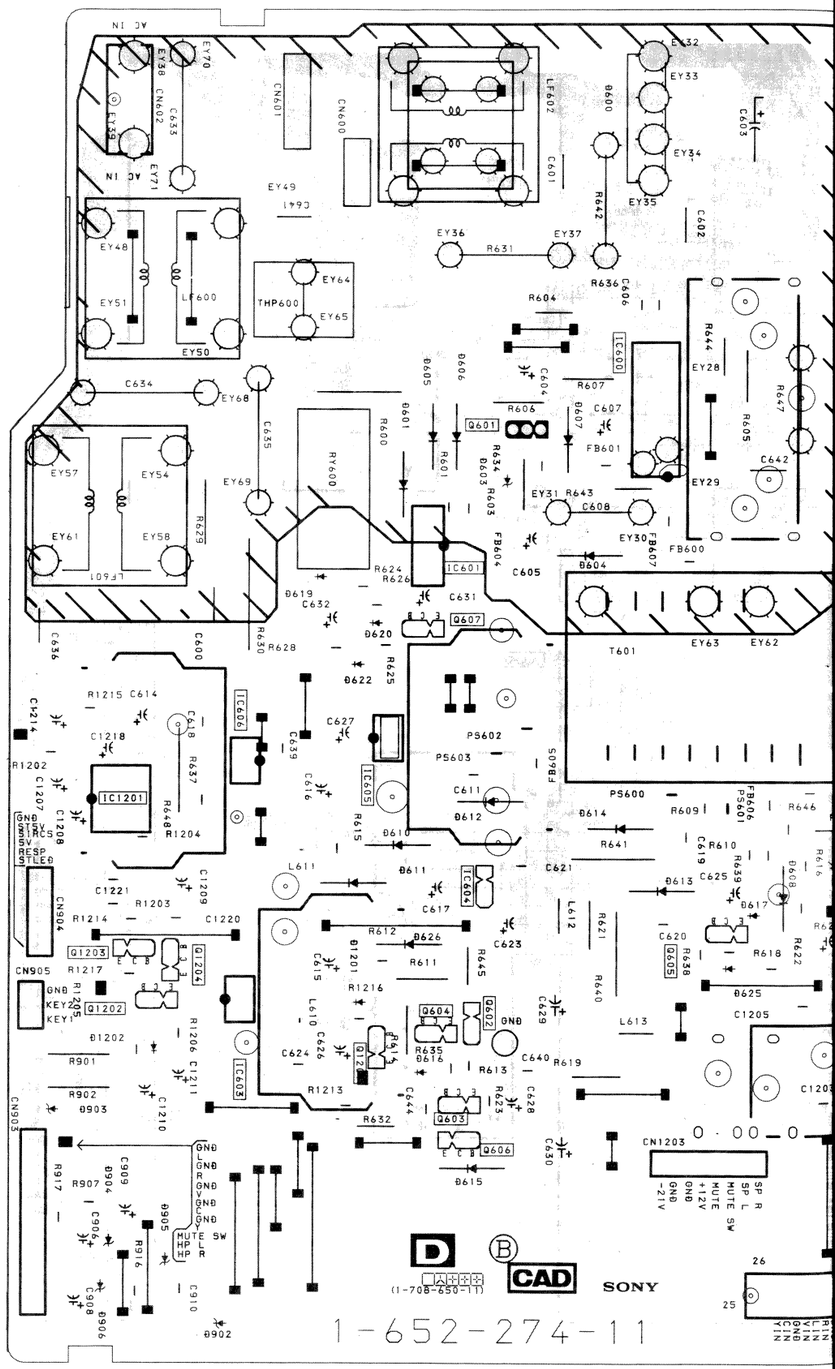
– H3 BOARD –



– F1 BOARD –

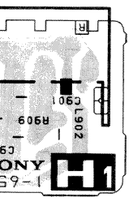


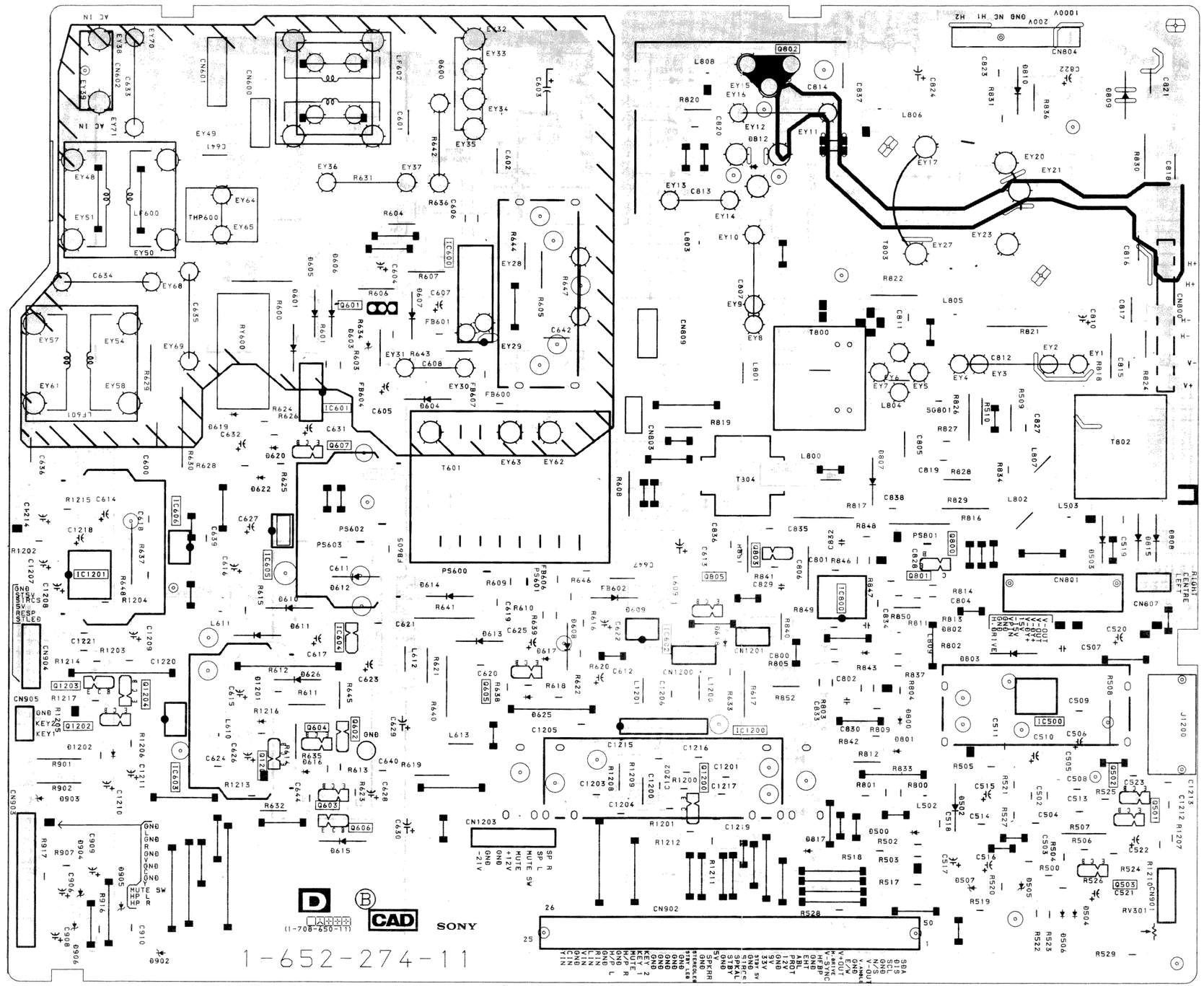
– D BOARD –



H2 [SIRCS RECEIVE INDICATOR] **H3** [CONTROL SW] **F1** [AC IN POWER SW] **D** [HV OUT PIN OUT POWER SUPPLY]

– D BOARD –





The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

IC	
IC500	G - 10
IC600	C - 5
IC601	D - 4
IC602	F - 7
IC603	H - 2
IC604	F - 4
IC605	F - 3
IC606	E - 2
IC800	F - 8
IC1200	G - 7
IC1201	F - 1

TRANSISTOR	
Q501	H - 11
Q502	H - 11
Q503	I - 11
Q601	C - 4
Q602	G - 4
Q603	H - 3
Q604	G - 3
Q605	G - 5
Q606	H - 4
Q607	E - 4
Q800	E - 9
Q801	F - 9
Q802	A - 8
Q803	F - 7
Q805	F - 7
Q1200	H - 7

DIODE	
D500	G - 9
D502	G - 9
D503	F - 10
D504	I - 10
D505	I - 10
D506	I - 10
D507	G - 9
D600	A - 4
D601	C - 3
D603	D - 4
D604	D - 4
D605	C - 3
D606	C - 4
D607	C - 4
D608	F - 6
D609	F - 6
D610	F - 3
D611	F - 3
D612	F - 4
D613	F - 5
D614	F - 4
D615	H - 4
D616	G - 3
D617	F - 5
D618	F - 7
D619	D - 2
D620	E - 3
D622	E - 3
D625	G - 5
D626	G - 3
D800	G - 9
D801	G - 9
D802	F - 9
D803	F - 9
D807	E - 9
D808	E - 11
D809	A - 11
D810	A - 10
D812	B - 7
D815	E - 11
D817	H - 8
D902	I - 2
D903	H - 1
D904	H - 1
D905	H - 2
D906	I - 1

B-:SSBE3.<M25>-0..

D { H/V OUT / P/N OUT / POWER. SUPPLY }

TO F1 BOARD CN604

CN602 5P: AC-IN, NC, NC, NC, AC-IN

TO DGC

CN601 3P: DGC, NC, DGC

CN600 2P: DGC CHK, DGC CHK

THP600

LF600 LFT, LF601 LFT, R629 1R 1/2W, C635 0.22 300V, C633 0.22 300V, C634 0.22 300V, R631 1.5 10W, R632 1.5 10W, C600 2200p 400V, R630 0.24 1W, C636 2200p 400V, R600 39k 3W, R1710 1k 1W, R1207 1k 5W

D600 D4SB60L-F, C603 220 400V JW014 5MM, C602 4700p 250V, C601 4700p 250V

R647 0.1 1/2W :RF, R634 22, R603 10k, C606 1000p 5, C604 100, Q601 2SC3852A, C605 10 100V, D603 MTZJ-T-77-6.8C AMP

IC600 STR-S6708 POWER CONTROL (SNG, B, C, IN, OUT)

FB601 1.1, D607 EG1Z, C607 220 25V, C608 1500p 2kV E, R606 JW12.5MM, R605 0.27 2W :RS, R607 1.2 1W :RS, FB607 1.1

CN901 5P: GND, SCL, SDA, DIS, NC — SERVICE CONNECTOR

CN902 50P: SDA, DIS, SCL, GND, N/S, V-OUT, V.ANGLE, GND, E/W, V+OUT, H DRIVE, V-SYNC, HFBP, GND, EHT, ABL, PROT, 12V, GND, 9V, 33V, STBY 5V, GND, SIRCS, AUDIO L, STBY, GND, 5V, AUDIO R, GND, STEREOLED, STBY LED, GND, GND, GND, GND, GND, KEY 2, KEY 1, MUTE, H/P R, GND, H/P L, GND, RIN, LIN, VIN, GND, CIN, YIN

R528 1.2M, R529 470k, RV301 470k, R517 1.8k, R518 1.8k, V.ANGLE

-17.5V, +33V, +5V STBY, +12V, +9V, +21V, -15V, +5V, -17.5V

EHT, +SAW, HDRIVE, VPIN, E/W, HFBP

R833 2.2k :FPRO, R522 22k, R523 2.2k, Q501 JC501TP-Q SWITCH, C522 10, D504 1SS133T, D505 MTZJ-T-77-3.6A, D506 1SS133T, D507 MTZJ-T-77-5.1B, R524 4.7k, R525 4.7k, Q502 JA101-Q SWITCH, C521 10 25V, C523 0.1, Q503 DTC144ES SWITCH, R526 2.2k

IC500 STV9379 VERTICAL OUTPUT (V+I/P, VCC, F.B. PLS, VEE, OUT-PUT, VCC (OUT), V-I/P)

C503 0.1 100V :MPS, R503 10k, R502 2.2k, D501 MTZJS, R519 5MM, R520 33k, C502 470p, R521 39k, R527 15k, C510 220, C507 2.2 :BP, C511 0.33 63V, R505 1.2 :FPRO, R507 220 2W, C513 0.1mF 100V :MPS, R500 33k, D803 GP08D-V.BOOST, R504 56k, R506 470, C504 470p, C506 470 25V, C509 0.1, R508 1.5 2W :RS

R812 2.2k, R852 18k 1/4W

R842 100k, R809 820k, C830 0.1, R843 1M, C802 680pF, RE03 5.6k, R805 4.7k, C801 0.01, R801 10k, RE37 1k, RE02 1k, R800 2.2k 1/4W, D802 1SS133, R849 10k, D817 MTZJ5.6, D801 1SS133, C800 0.0056 50V :MPS, L809 47mH, D800 1SS133, C1207 100 16V, C1214 100 16V, C838 470pF, D807 RGP10G, L802 10mH, R847 330k, R846 100k, C832 0.47mF, R848 220k, C805 0.15 200V :PT, D808 GP08D, PS801 0.4A, R814 330, C804 0.1, Q801 2SC4793 E/W-OUT, R813 1k 1W, R811 5MM (JW), Q800 JC501TP-Q BUFFER, R850 4.7k, C834 22 25V, Q1204 DTC143TS SWITCH, Q1203 DTC143TS SWITCH, Q1202 DTC114ES SWITCH, R1217 47k, IC800 LM393P E/W CONTROL

IC1201 TDA2822M HEADPHONE AMP, R1204 2.2k, C1209 4.7, C1211 2.2, R1206 8.2k, C1210 2.2, R1205 8.2k, R1203 2.2k, C1208 4.7, C1218 220 16V, R1202 10 :FPRO, D1202 MTZ-J-T-77-2.7B

R917 22, R907 75, R916 22, R902 39 1/2W :RC, R901 39 1/2W :RC, C909 1mF, C906 47, C910 0.01, C908 47

D902 MTZJ9.1, D903 MTZJ9.1, D904 MTZJ9.1, D905 MTZJ9.1, D906 MTZJ9.1

CN807 3P :S-MICRO H.POSITION (RIGHT, CENTRE, LEFT)

JW802 10MM, L801 C01

TO A BOARD CN001

CN905 3P: KEY1, KEY2, GND

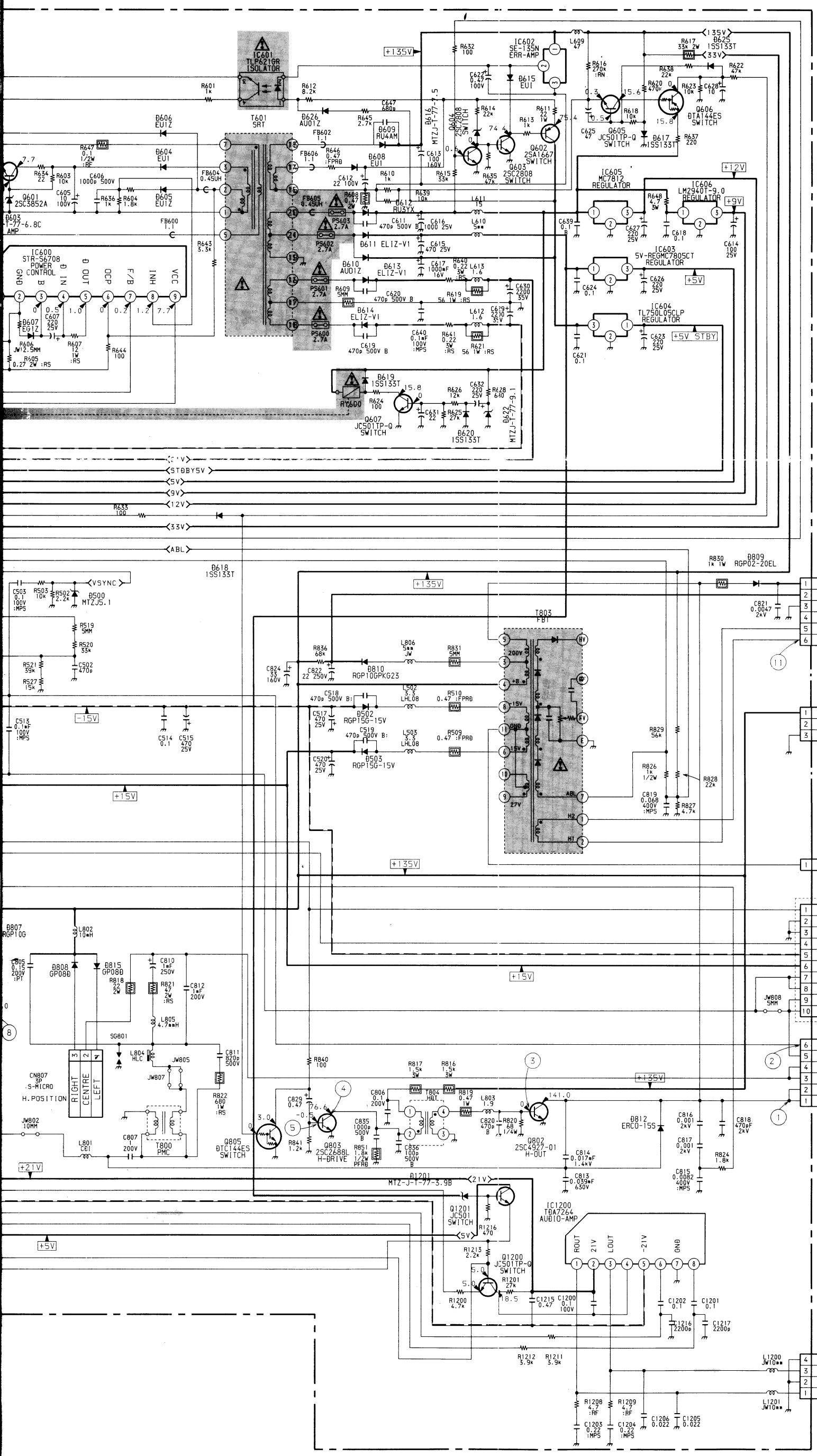
CN903 13P: GND, L, GND, R, GND, V, GND, C, GND, Y, MUTE SW, HP R, HP L

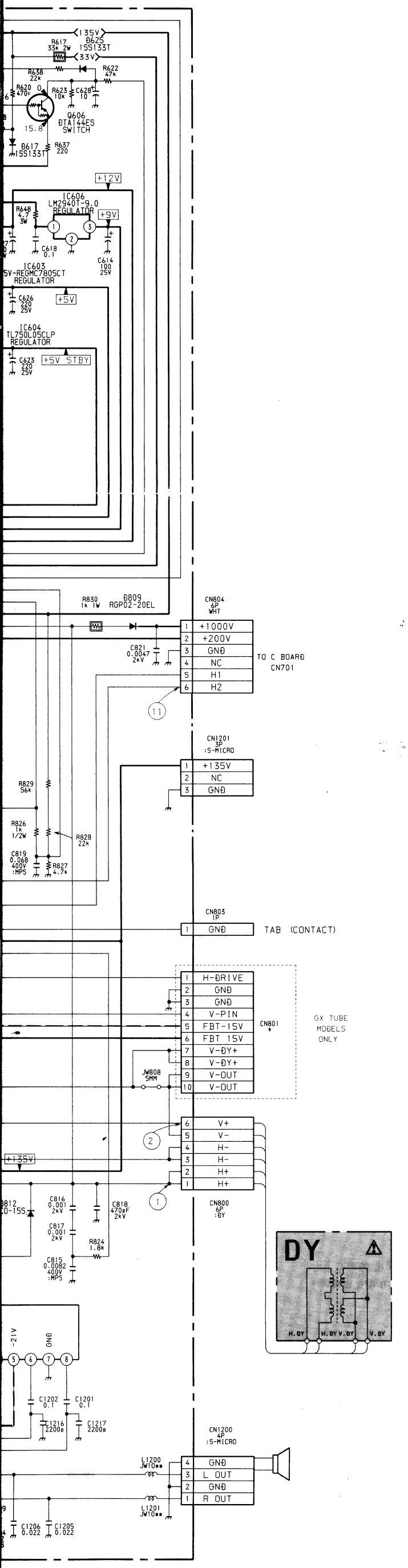
CN904 6P: GND, ST5V, SIRCS, +5V RESP, STLED

TO H3 BOARD CN908

TO H1 BOARD CN906

TO H2 BOARD CN907

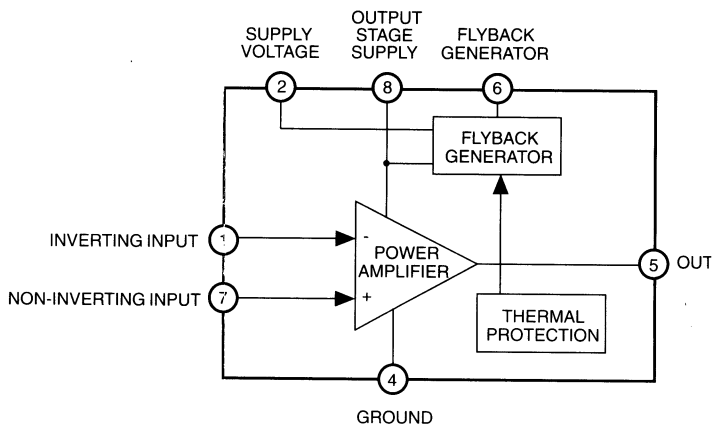

IC601 TLP621GR ISOLATOR
T601 SRT
IC602 SE-135N ERR-AMP
IC605 MC7812 REGULATOR
IC606 LM2940T-9.0 REGULATOR
IC603 5V-REGMC7805CT REGULATOR
IC604 TL750L05CLP REGULATOR
IC600 STR-S6708 POWER CONTROL
Q601 2SC3852A
Q602 2SA1667 SWITCH
Q603 2SC2808 SWITCH
Q604 2SC2808 SWITCH
Q605 JC501TP-Q SWITCH
Q606 DTA144ES SWITCH
Q607 JC501TP-Q SWITCH
+135V
+12V
+9V
+5V
+5V STBY
-15V
+15V
+21V
+135V
STBY5V
5V
9V
12V
33V
ABL
VSYNC
T803 FBT
Q803 2SC2688L H-DRIVE
Q805 DTC144ES SWITCH
Q802 2SC4927-01 H-OUT
Q1201 JC501 SWITCH
Q1200 JC501TP-Q SWITCH
IC1200 TDA7264 AUDIO-AMP
T800 PMC
SG801
CN804 6P WHT
CN1201 3P :S-MICRO
CN803 1P
CN801 *
CN800 6P :DY
CN1200 4P :S-MICRO
CN807 3P :S-MICRO
TO C BOARD CN701
TAB (CONTACT)
GX TUBE MODELS ONLY
DY
+1000V
+200V
GND
NC
H1
H2
+135V
NC
GND
H-DRIVE
GND
V-PIN
FBT-15V
FBT 15V
V-DY+
V-DY+
V-OUT
V-OUT
V+
V-
H-
H-
H+
H+
GND
L OUT
GND
R OUT
H.DY
H.DY V.DY
V.DY



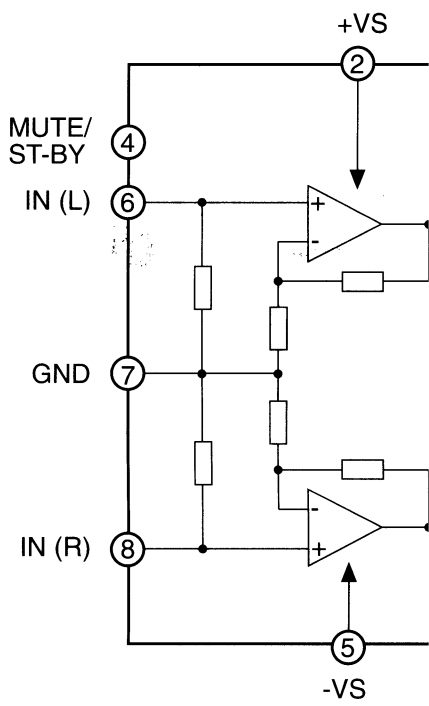
WAVEFORMS D BOARD

① 1.2K Vp-p (H)	② 56.0 Vp-p (V)	③ 11.7 Vp-p (H)	④ 181 Vp-p (
⑤ 3.0 Vp-p (H)	⑥ 56 Vp-p (V)	⑦ 31 Vp-p (V)	⑧ 140 Vp-p (
⑨ 3.9 Vp-p (H)	⑩ 1.6 Vp-p (H)	⑪ 22 Vp-p (H)	⑫ 3.5 Vp-p (
⑬ 5.5 Vp-p (V)			

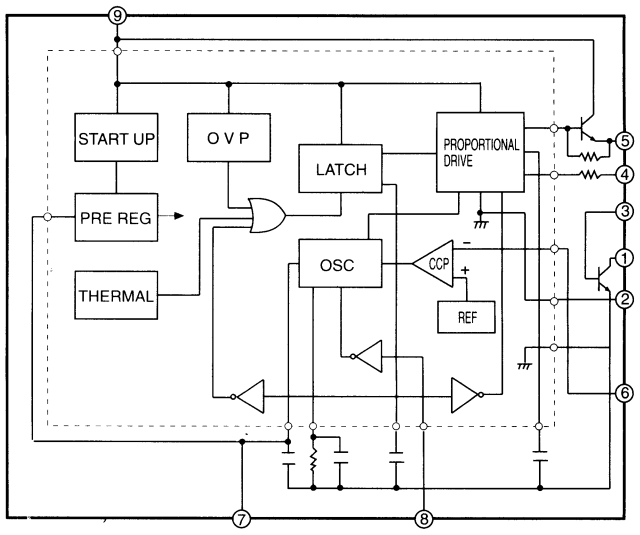
D BOARD IC500 STV9379



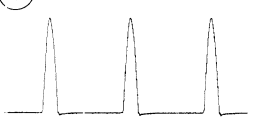
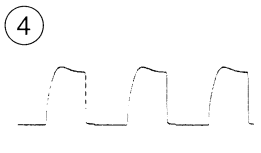
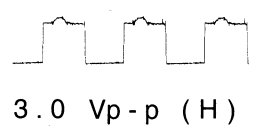
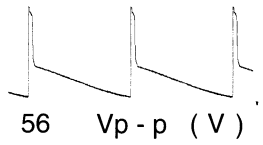
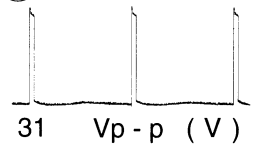
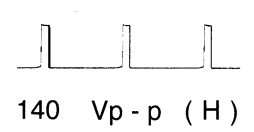
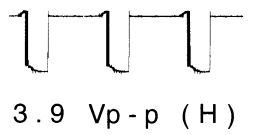
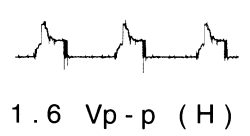
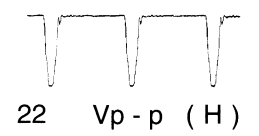
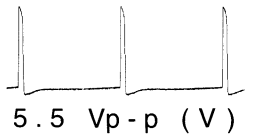
D BOARD IC1200 TDA7



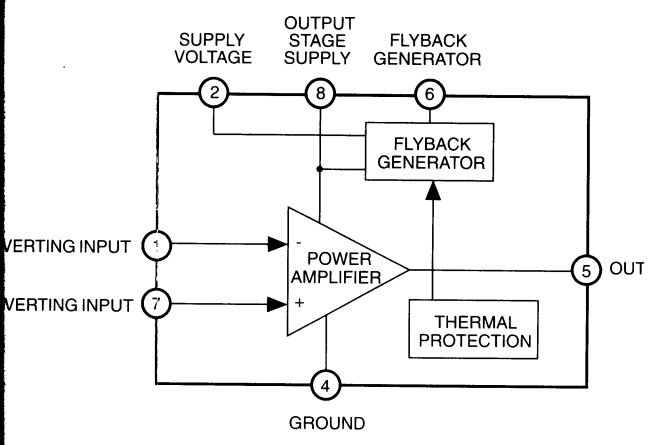
D BOARD IC600 STR-S6708



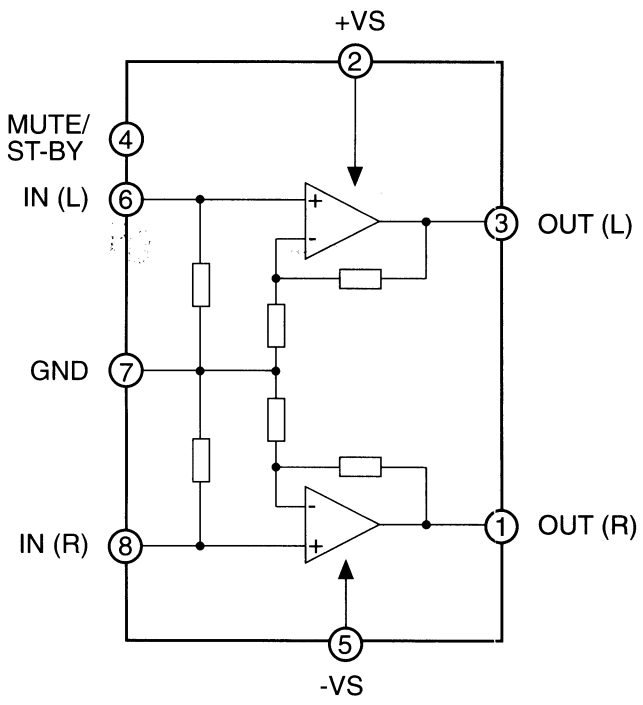
WAVEFORMS D BOARD

①  1.2K Vp-p (H)	② 56.0 Vp-p (V)	③ 11.7 Vp-p (H)	④  181 Vp-p (H)
⑤  3.0 Vp-p (H)	⑥  56 Vp-p (V)	⑦  31 Vp-p (V)	⑧  140 Vp-p (H)
⑨  3.9 Vp-p (H)	⑩  1.6 Vp-p (H)	⑪  22 Vp-p (H)	⑫ 3.5 Vp-p (H)
⑬  5.5 Vp-p (V)			

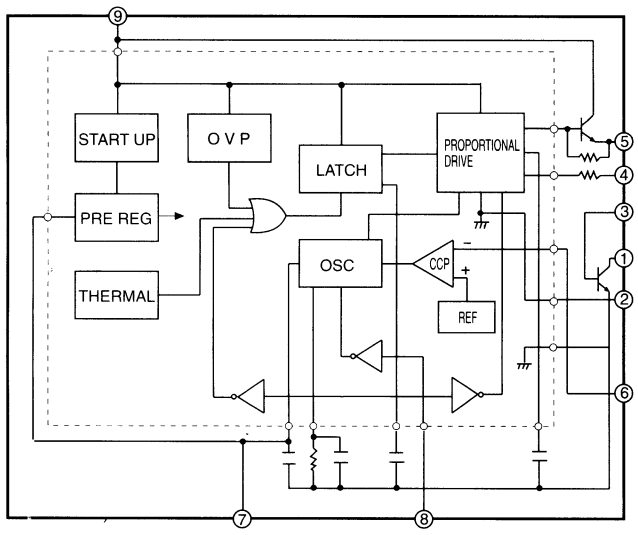
D BOARD IC500 STV9379

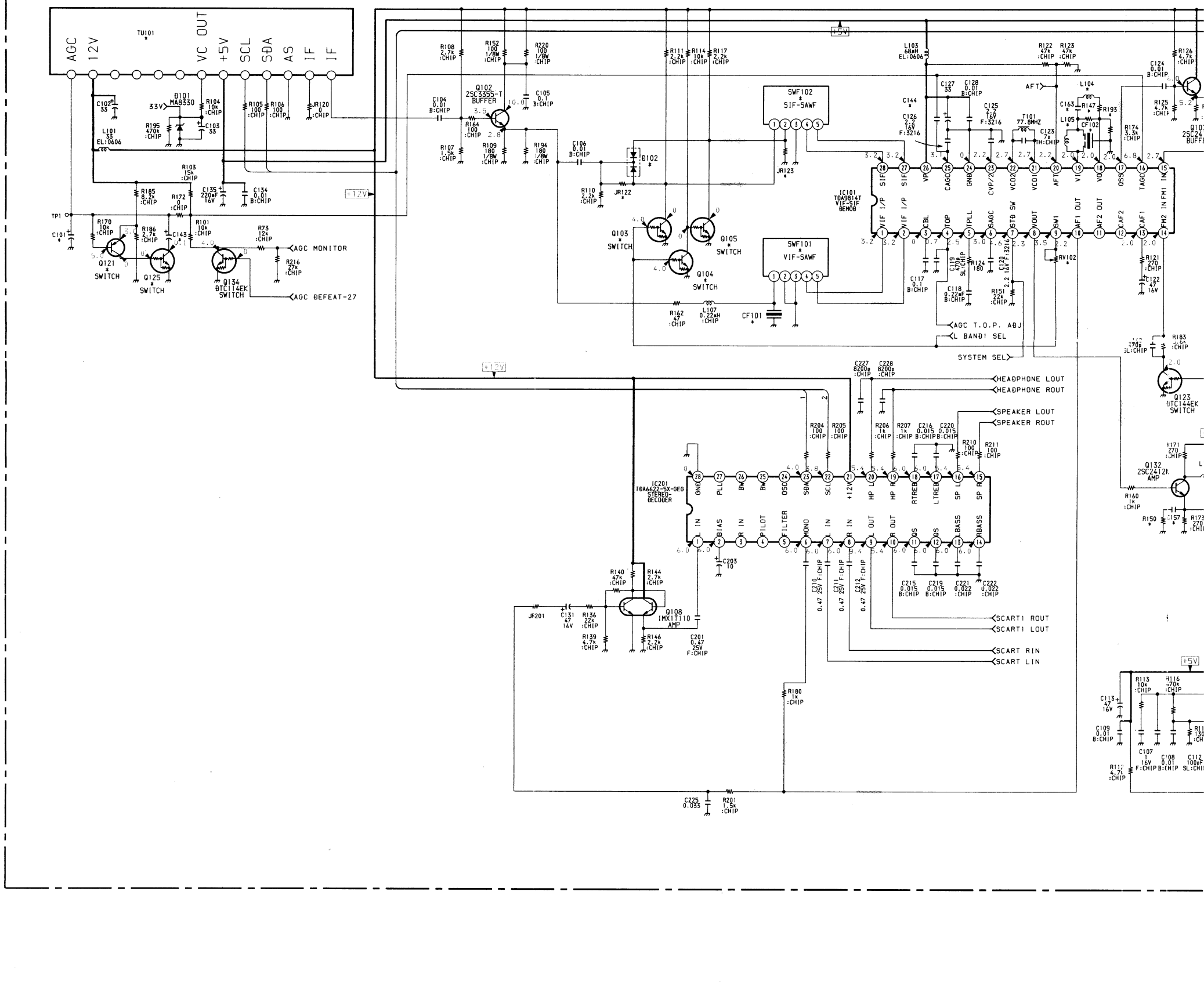


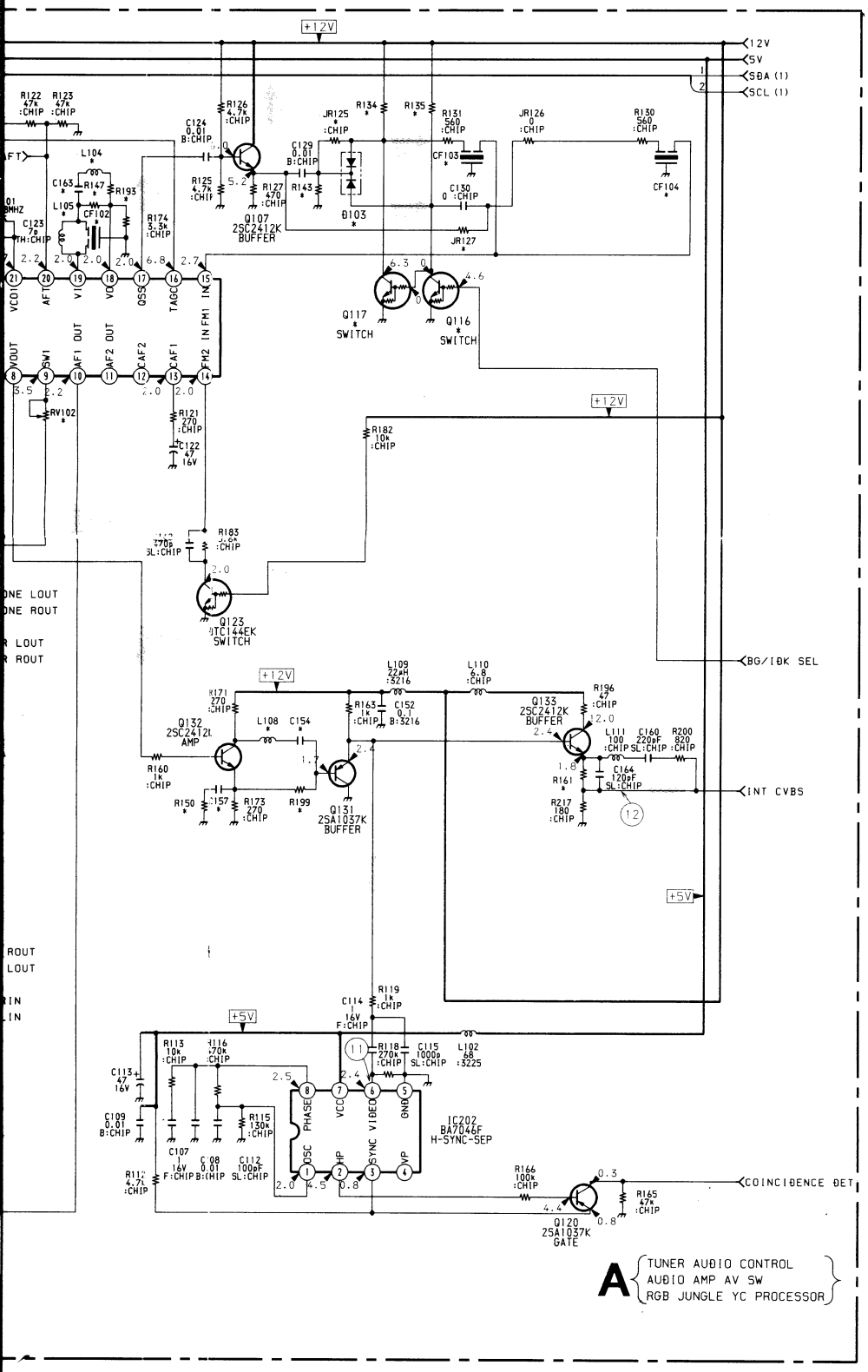
D BOARD IC1200 TDA7264

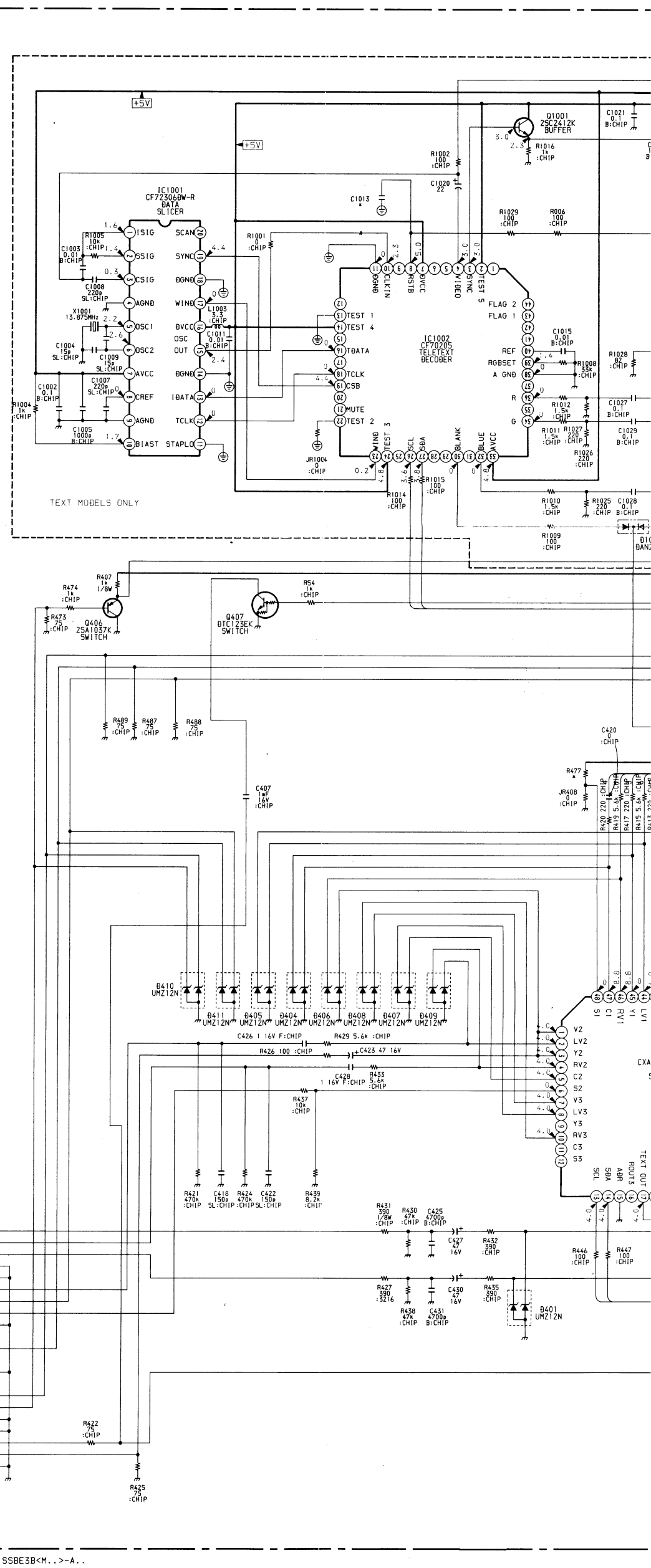


D BOARD IC600 STR-S6708




B-:SSBE3B<M..>-A..
TU101
AGC
12V
VC OUT
+5V
SCL
SDA
AS
IF
IF
+12V
+5V
AGC MONITOR
AGC DEFEAT-27
AGC T.O.P. ADJ
L BAND1 SEL
SYSTEM SEL
HEADPHONE LOUT
HEADPHONE ROUT
SPEAKER LOUT
SPEAKER ROUT
SCART1 ROUT
SCART1 LOUT
SCART RIN
SCART LIN
IC101 TDA9814T VIF-SIF DEMOD
IC201 T0A6622-5X-GEG STEREO-DECODER
SWF101 * VIF-SAWF
SWF102 * SIF-SAWF
Q102 2SC3355-T BUFFER
Q103 * SWITCH
Q104 * SWITCH
Q105 * SWITCH
Q121 * SWITCH
Q125 * SWITCH
Q134 DTC114EK SWITCH
Q123 DTC144EK SWITCH
Q132 2SC2412K AMP
Q108 IMX1T110 AMP
D101 MA8330
D102 *
T101 77.8MHZ
CF101 *
CF102 *
RV102 *

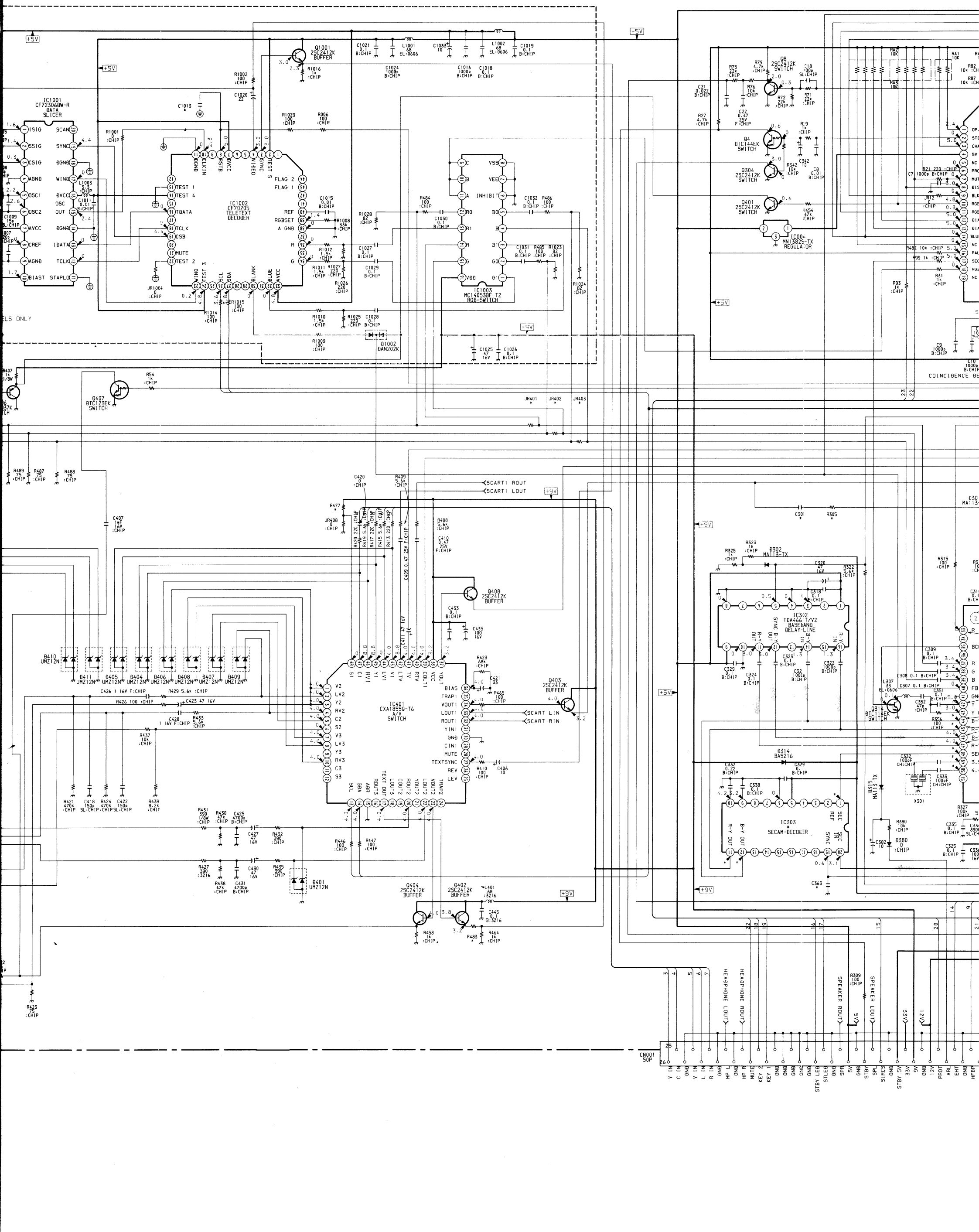


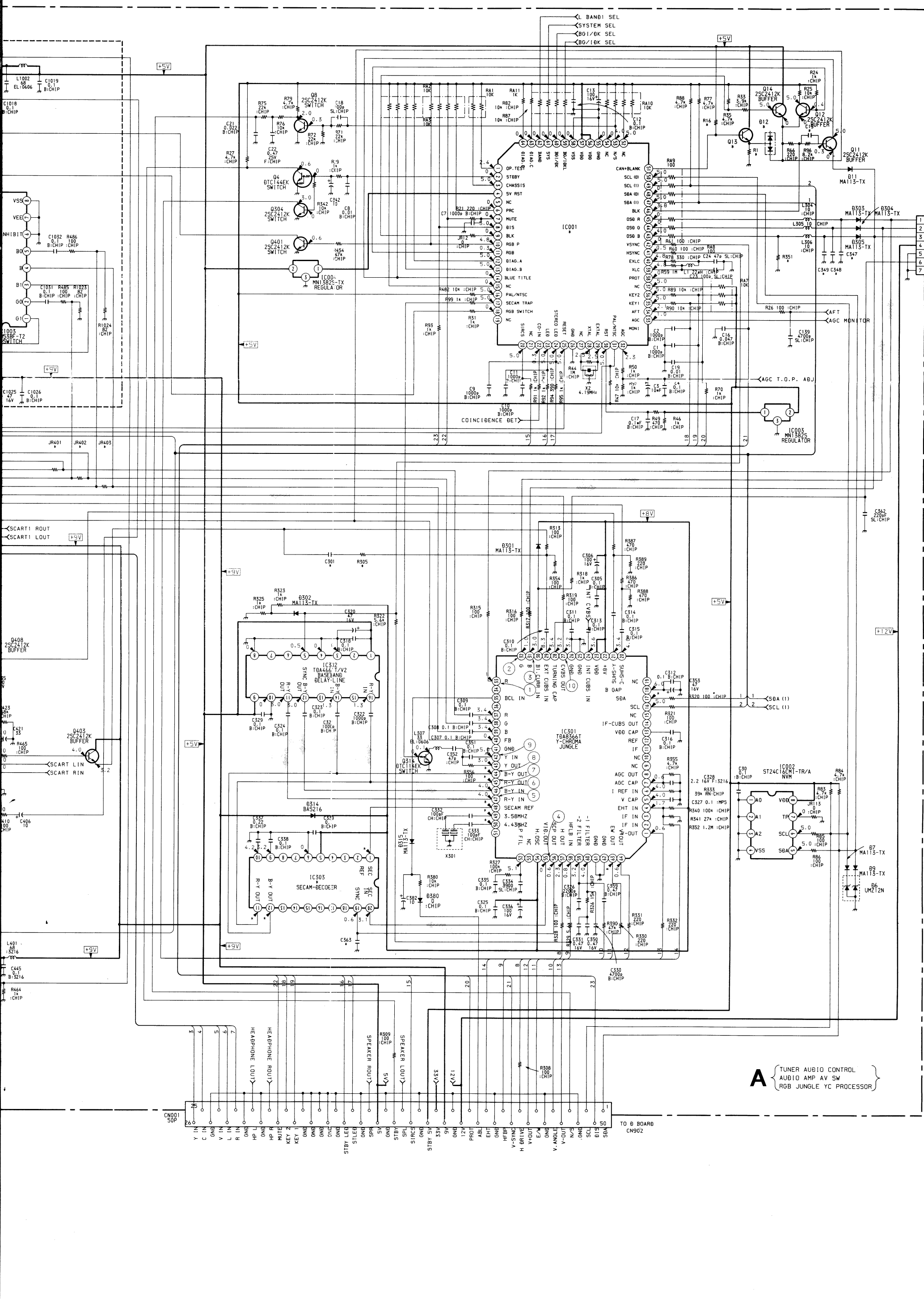


Voltages indicated with the mark ※ on the schematic diagram are shown in the table below.

A BOARD

IC	Pin	PAL	SECAM	NTSC 3.58	NTSC 4.43
IC301	17	4.0	4.0	4.0	0
	35	3.6	2.5	3.5	3.5
	44	1.5	3.1	1.5	1.5
	45	1.5	3.0	1.5	1.5
	48	1.7	4.4	1.6	1.7
	49	1.4	1.4	2.0	1.4
	50	2.0	2.0	1.4	2.0
	63	3.4	2.5	2.2	2.5
IC303	1	1.7	4.4	1.6	1.7
	11	1.5	3.0	1.5	1.5
	12	1.5	3.1	1.5	1.5

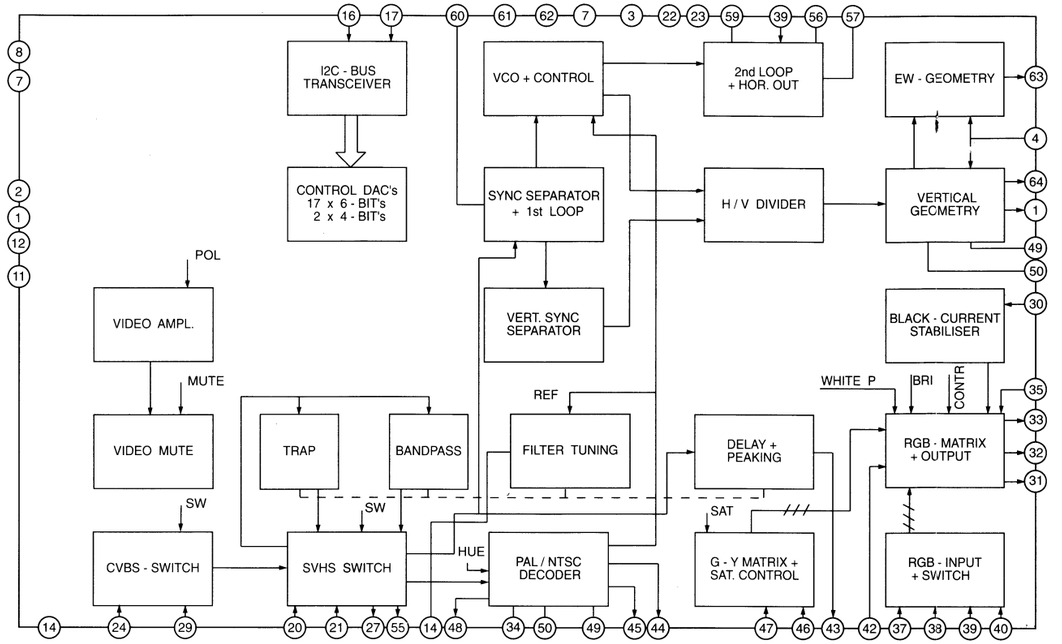

IC1001 CF72306BW-R DATA SLICER
IC1002 CF70205 TELETEXT DECODER
IC1003 MC14053BF-T2 RGB-SWITCH
IC401 CXA1855Q-T6 A/V SWITCH
IC303 SECAM-DECODER
IC312 TDA4666 T/V2 BASEBAND DELAY-LINE
IC001 MN1382S-TX REGULATOR
Q1001 2SC2412K BUFFER
Q8 2SC2412K SWITCH
Q4 DTC144EK SWITCH
Q304 2SC2412K SWITCH
Q401 2SC2412K SWITCH
Q407 DTC123EK SWITCH
Q408 2SC2412K BUFFER
Q403 2SC2412K BUFFER
Q404 2SC2412K BUFFER
Q402 2SC2412K BUFFER
Q314 DTC114EK SWITCH
D1002 DAN202K
D302 MA113-TX
D314 BAS216
D315 MA113-TX
D380 0
D401 UMZ12N
D410 UMZ12N
D411 UMZ12N
D405 UMZ12N
D404 UMZ12N
D406 UMZ12N
D408 UMZ12N
D407 UMZ12N
D409 UMZ12N
+5V
+9V
SCART1 ROUT
SCART1 LOUT
SCART LIN
SCART RIN
HEADPHONE LOUT
HEADPHONE ROUT
SPEAKER ROUT
SPEAKER LOUT
CN001 50P
X301
COINCIDENCE DE


L BAND1 SEL
SYSTEM SEL
BG1/0K SEL
BG/10K SEL
+5V
+9V
+8V
+12V
IC001
IC003 MN1382S-TX REGULATOR
IC003 MN1382S REGULATOR
IC002 ST24C16CM1-TR/A NVM
IC301 TDA8366T Y-CHROMA JUNGLE
IC302 TDA4466 T/V2 BASEBAND DELAY-LINE
IC303 SECAM-DECODER
Q1 2SC2412K BUFFER
Q2 2SC2412K BUFFER
Q3 2SC2412K BUFFER
Q4 DTC144EK SWITCH
Q8 2SC2412K SWITCH
Q11 2SC2412K BUFFER
Q12 2SC2412K BUFFER
Q13
Q14 2SC2412K BUFFER
Q301 DTC114EK SWITCH
Q304 2SC2412K SWITCH
Q401 2SC2412K SWITCH
Q403 2SC2412K BUFFER
Q408 2SC2412K BUFFER
D11 MA113-TX
D301 MA113-TX
D302 MA113-TX
D303 MA113-TX
D304 MA113-TX
D305 MA113-TX
D307 MA113-TX
D309 MA113-TX
D315 MA113-TX
D314 BAS216
CN002 7P WHT
CN001 50P
CN902
TO C BOARD CN703
TO D BOARD CN902
AFT
AGC MONITOR
AGC T.O.P. ADJ
COINCIDENCE DET
SCART1 ROUT
SCART1 LOUT
SCART LIN
SCART RIN
SDA (1)
SCL (1)
X2 4.19MHz
X301
A TUNER AUDIO CONTROL
AUDIO AMP AV SW
RGB JUNGLE YC PROCESSOR

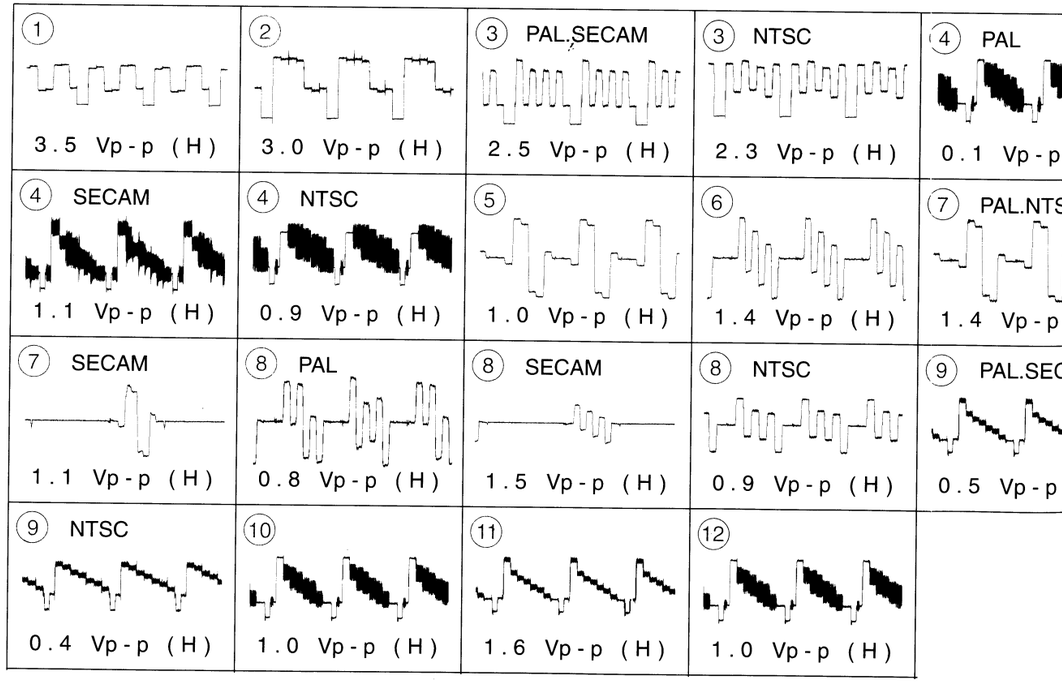
A BOARD * MARK

Model	M2541A	M2540B	M2540D	M2541D	M2540E	M2541E	M2540K	M2541K	M2541L	M2541U
C15	33PF	33PF	33PF	33PF	-	-	-	-	33PF	33PF
C101	22UF	4.7UF	22UF	22UF	22UF	22UF	22UF	22UF	22UF	22UF
C143	-	100UF	-	-	-	-	-	-	-	-
C144	-	1UF	-	-	-	-	-	-	-	-
C154	180PF	33PF	180PF	180PF	180PF	180PF	180PF	180PF	47PF	47PF
C157	68PF	68PF	68PF	120PF	68PF	68PF	68PF	68PF	100PF	100PF
C163	-	1000PF	-	-	-	-	-	-	-	-
C301	-	-	-	-	-	-	-	-	470PF	470PF
C347	68PF	68PF	68PF	68PF	10PF	10PF	10PF	10PF	68PF	68PF
C348	68PF	68PF	68PF	68PF	10PF	10PF	10PF	10PF	68PF	68PF
C349	68PF	68PF	68PF	68PF	10PF	10PF	10PF	10PF	68PF	68PF
C355	47PF	47PF	47PF	47PF	47PF	47PF	47PF	47PF	68PF	68PF
C363	22PF	22PF	22PF	22PF	22PF	22PF	22PF	22PF	-	-
C1013	1MF	-	-	1MF	-	-	-	-	1MF	1MF
CF101	-	EFCV4045A4	EFCV4045A4	EFCV4045A4	EFCV4045A4	EFCV4045A4	EFCV4045A4	EFCV4045A4	-	-
CF102	5.5MHZ	6.5MHZ	5.5MHZ	5.5MHZ	5.5MHZ	5.5MHZ	5.5MHZ	5.5MHZ	6.0MHZ	6.0MHZ
CF103	5.5MHZ	5.5MHZ	5.5MHZ	5.5MHZ	5.5MHZ	5.5MHZ	5.5MHZ	5.5MHZ	-	-
CF104	-	6.0MHZ	6.5MHZ	6.5MHZ	-	-	6.5MHZ	6.5MHZ	6.0MHZ	6.0MHZ
CF109	TRAP	TRAP	TRAP	TRAP	-	-	-	-	-	-
D12	-	MA715-TX	-	-	-	MA715-TX	-	-	-	-
D102	-	DAN202K	-	-	-	-	-	-	-	-
D103	-	DAN202K	DAN202K	DAN202K	-	-	DAN202K	DAN202K	-	-
IC001	CXP85228-113Q	CXP85228-112Q	CXP85228-112Q	CXP85228-112Q	CXP85228-113Q	CXP85228-113Q	CXP85228-112Q	CXP85228-112Q	CXP85228-113Q	CXP85228-113Q
IC303	-	TDA8395T	TDA8395T	TDA8395T	-	-	TDA8395T	TDA8395T	-	-
JR122	0	-	0	0	0	0	0	0	0	0
JR123	0	-	0	0	0	0	0	0	0	0
JR125	0	-	-	-	0	0	-	-	-	-
JR127	-	-	-	-	-	-	-	-	0	0
JR401	-	0	0	-	0	-	0	-	-	-
JR402	-	0	0	-	0	-	0	-	-	-
JR403	-	0	0	-	0	-	0	-	-	-
L104	-	100UH	-	-	-	-	-	-	-	-
L105	15UH	5.6UH	15UH	15UH	15UH	15UH	15UH	15UH	15UH	15UH
L108	10UH	27UH	10UH	10UH	10UH	10UH	10UH	10UH	10UH	10UH
Q13	-	2SC2412K	-	-	-	2SC2412K	-	-	-	-
Q103	-	DTC114EK	-	-	-	-	-	-	-	-
Q104	-	DTC114EK	-	-	-	-	-	-	-	-
Q105	-	DTC114EK	-	-	-	-	-	-	-	-
Q116	-	DTC144EK	DTC144EK	DTC144EK	-	-	DTC144EK	DTC144EK	-	-
Q117	-	DTC144EK	DTC144EK	DTC144EK	-	-	DTC144EK	DTC144EK	-	-
Q121	-	2SA1162-G	-	-	-	-	-	-	-	-
Q125	-	DTC114EK	-	-	-	-	-	-	-	-
R1	-	1K	-	-	-	-	-	-	-	-
R16	-	1K	-	-	-	-	-	-	-	-
R134	-	2.2K	2.2K	2.2K	-	-	2.2K	2.2K	-	-
R135	-	2.2K	2.2K	2.2K	-	-	2.2K	2.2K	-	-
R143	-	2.2K	2.2K	2.2K	-	-	2.2K	2.2K	-	-
R147	220	180	220	220	220	220	220	220	330	330
R150	0	0	0	0	0	0	0	0	1.5K	1.5K
R161	180	180	180	180	180	180	180	180	820	820
R193	-	1K	-	-	-	-	-	-	-	-
R199	330	1.2K	330	330	330	330	330	330	1K	1K
R305	-	-	-	-	-	-	-	-	1K	1K
R351	6.8K	6.8K	6.8K	6.8K	-	-	-	-	6.8K	6.8K
R365	100	100	100	100	100	100	100	100	120	120
R477	-	-	-	-	-	-	-	-	5.6K	5.6K
R483	1.2K	1.2K	1.2K	1.2K	1.2K	1.2K	1.2K	1.2K	820	820
RV102	-	22K	-	-	-	-	-	-	-	-
SWF101	K3953M	K3953M	K3953M	K3953M	K3953M	K3953M	K3953M	K3953M	K3953M	J3950M
SWF102	K9350M	K9453M	K9350M	K9350M	K9350M	K9350M	K9350M	K9350M	K9350M	K9350M
TU101	UV-916H	UV-916H	UV-916H	UV-916H	UV-916H	UV-916H	UV-916H	UV-916H	UV-916H	U-944C

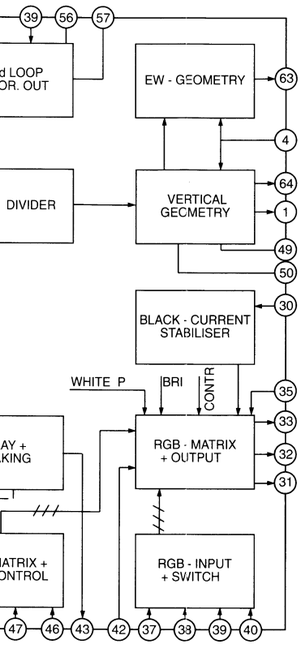
A BOARD IC301 TDA8366T



WAVEFORMS A BOARD

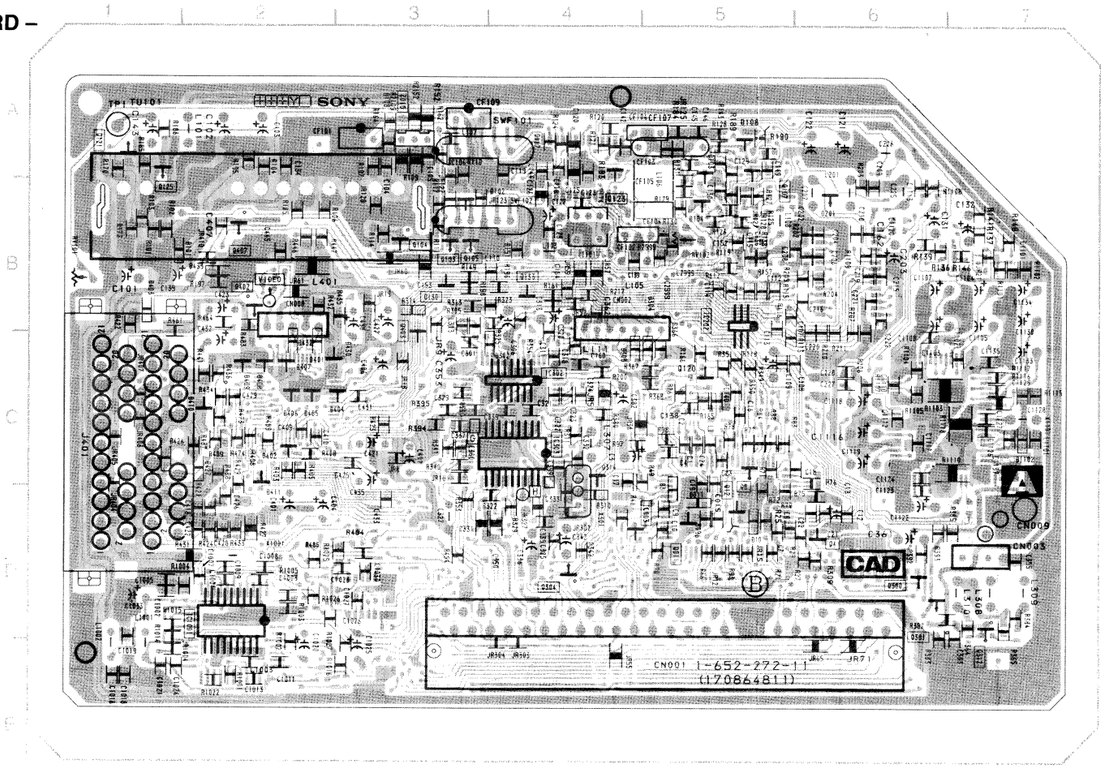


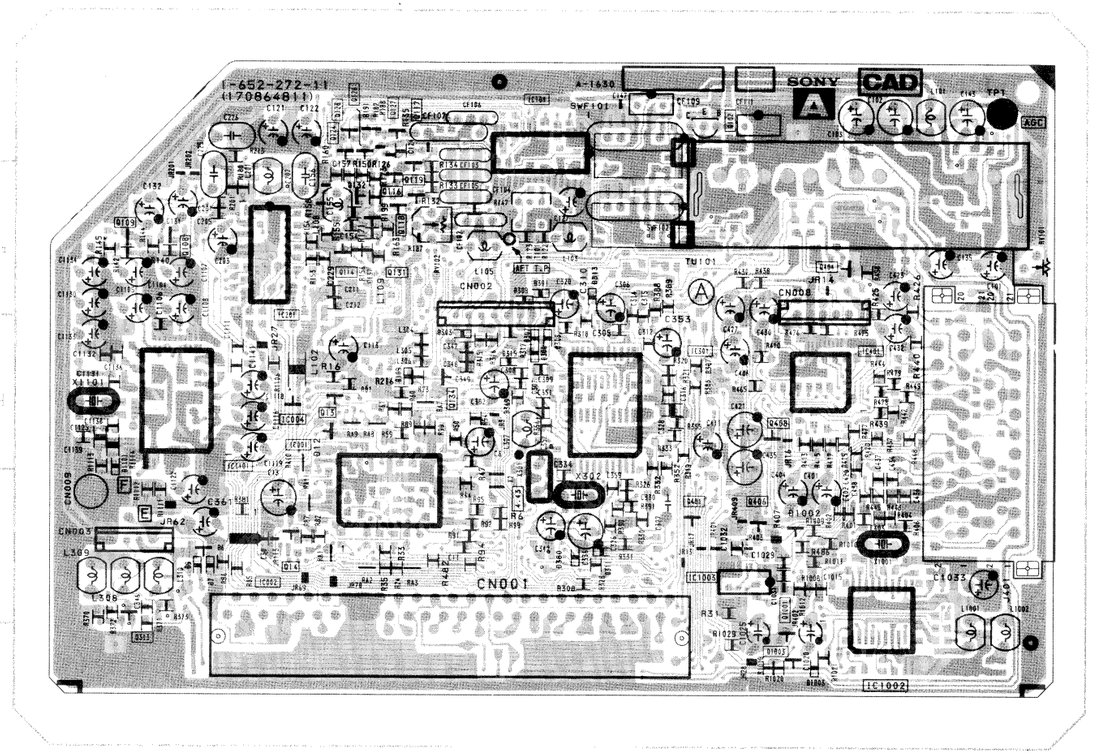
[RGB JUNGLE YC PROCESSOR]



NTSC		④ PAL	
3 Vp-p (H)		0.1 Vp-p (H)	
		⑦ PAL.NTSC	
4 Vp-p (H)		1.4 Vp-p (H)	
NTSC		⑨ PAL.SECAM	
9 Vp-p (H)		0.5 Vp-p (H)	
0 Vp-p (H)			

– A BOARD –

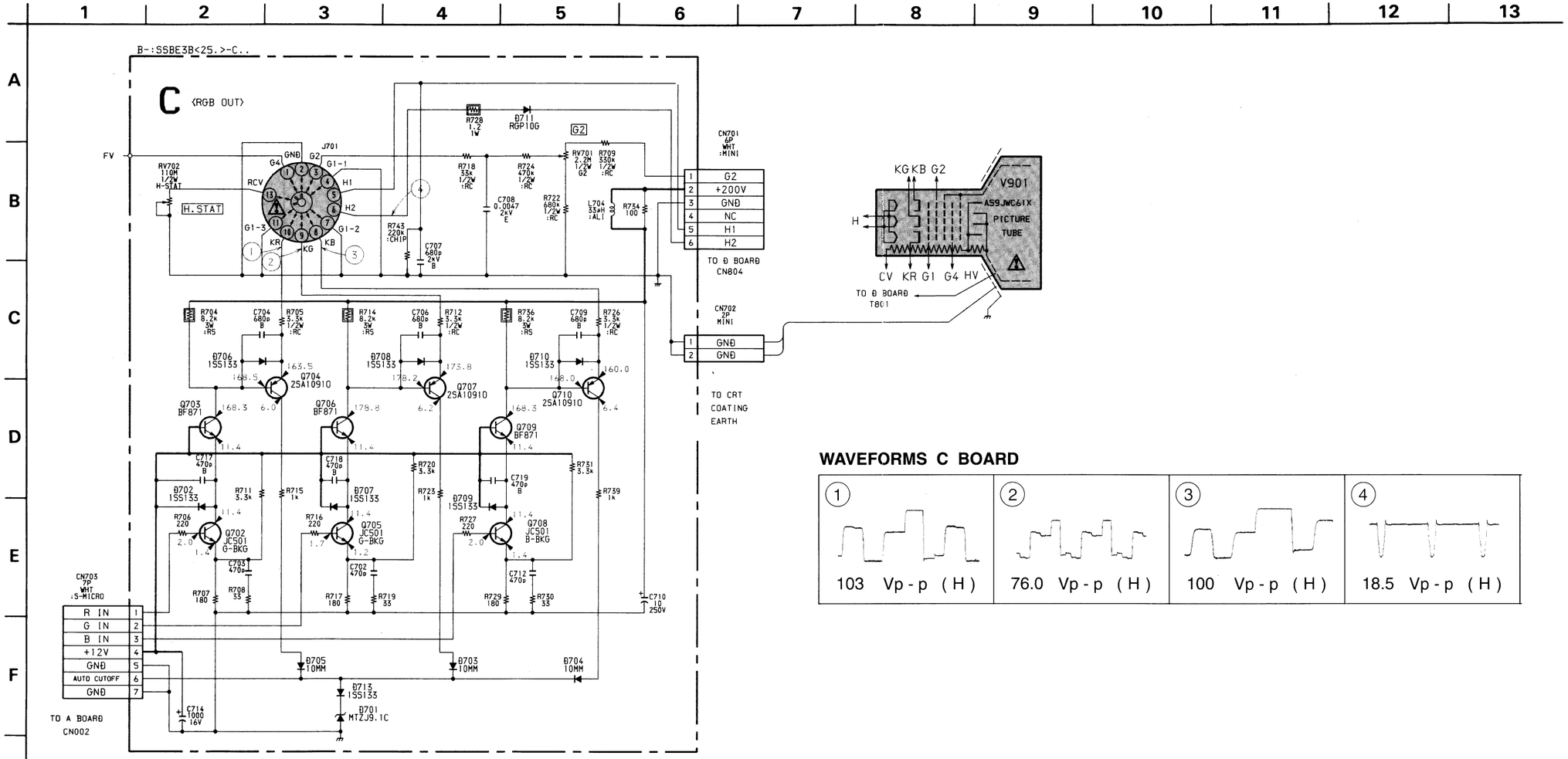




IC		Q313	J - 1
IC001	H - 2	Q314	C - 4
IC002	I - 2	Q380	D - 6
IC101	F - 4	Q38	D - 6
IC201	G - 2	Q401	I - 5
IC202	B - 5	Q402	B - 2
IC301	H - 5	Q403	B - 3
IC302	C - 4	Q404	G - 6
IC303	C - 4	Q1001	I - 6
IC401	H - 6	Q1003	J - 5
IC1001	D - 2	**DIODE**	
IC1002	J - 6	D6	I - 2
IC1003	I - 5	D7	I - 2
IC1101	H - 2	D9	I - 2
TRANSISTOR		D11	D - 5
Q4	D - 6	D101	B - 2
Q8	C - 5	D102	B - 4
Q11	D - 5	D103	A - 5
Q12	C - 5	D201	B - 6
Q14	I - 2	D301	G - 4
Q102	F - 5, A - 3	D302	C - 4
Q103	B - 3	D303	H - 3
Q104	B - 3	D304	B - 5
Q105	B - 3	D305	C - 4
Q107	B - 5	D314	B - 3
Q108	G - 2	D380	I - 4
Q109	G - 1	D401	C - 2
Q114	G - 3	D402	C - 2
Q116	G - 3	D404	C - 2
Q117	F - 3	D405	C - 2
Q120	C - 5	D406	C - 2
Q121	A - 1	D407	C - 2
Q123	B - 4	D408	C - 2
Q124	F - 3	D409	C - 2
Q125	B - 1	D410	C - 2
Q130	B - 3	D411	D - 2
Q131	G - 3	D1002	I - 6
Q132	G - 3	D1003	J - 6
Q133	B - 4	D1101	H - 1
Q304	D - 4	D1102	C - 7
Q312	E - 7		

Note :

- : Pattern from the side which enables seeing.
- : Pattern of the rear side.

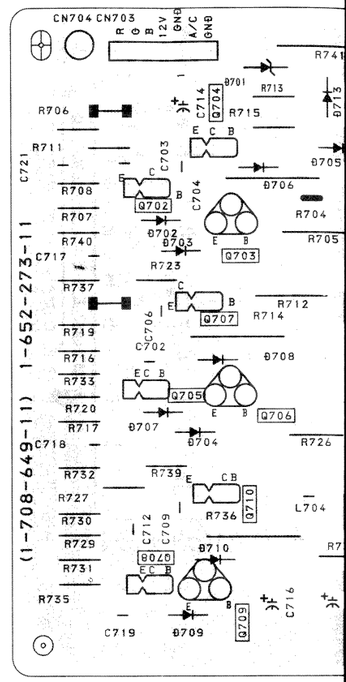


WAVEFORMS C BOARD

①	②	③	④
103 Vp-p (H)	76.0 Vp-p (H)	100 Vp-p (H)	18.5 Vp-p (H)

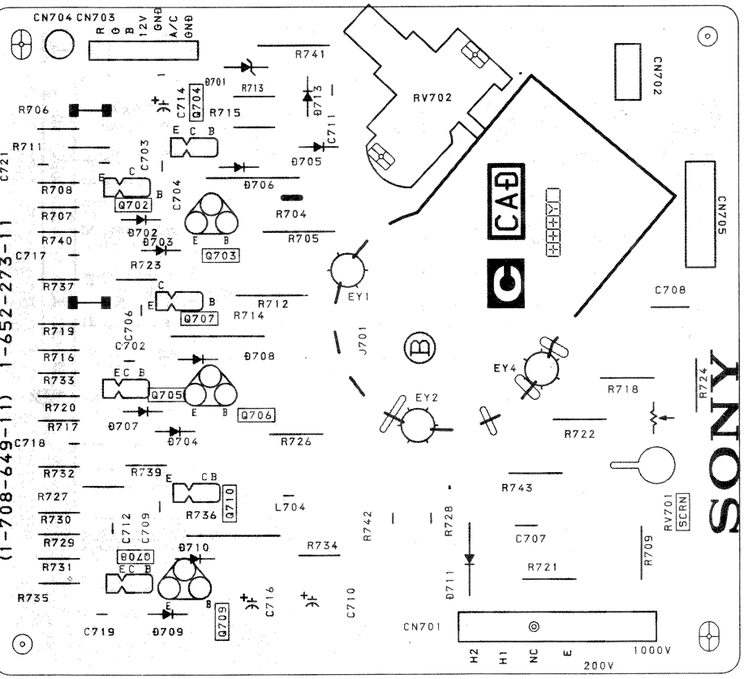
C [RGB OUT]

– C BOARD –



C [RGB OUT]

– C BOARD –



5.4 SEMICONDUCTORS

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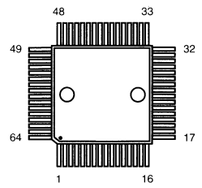

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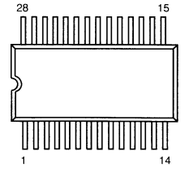

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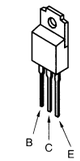

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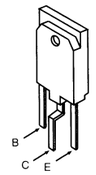

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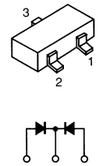

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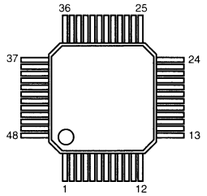

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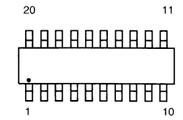

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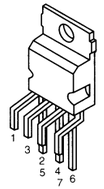

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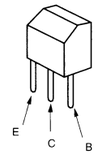

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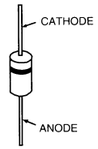

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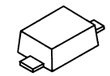

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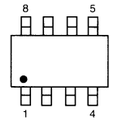

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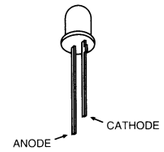

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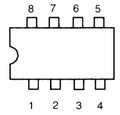

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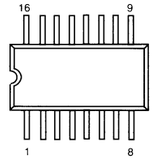

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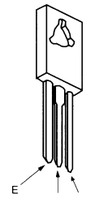

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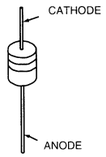

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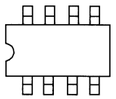

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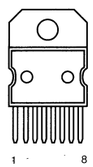

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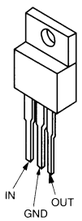

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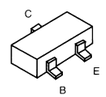

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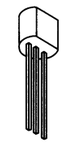

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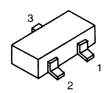

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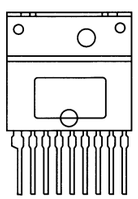

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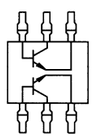

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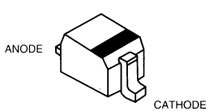

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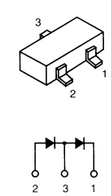

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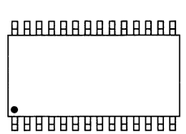

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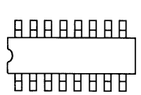

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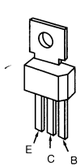

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